



BUILDING LEGACIES SINCE 1984

One Scottsdale
Amendment to Zoning
Project Narrative
December 11, 2023
Revised February 9, 2024

REQUEST

One Scottsdale Investors, LLC and RKCCLL Investments LLC, BDCCLL Investments LLC, CCFCLL Investments LLC and SMCCLL Investments (collectively, the **"Owners"**) are owners of portions of the One Scottsdale mixed-use development project (**"One Scottsdale"**) located at the northeast corner of Scottsdale Road and the Loop 101 freeway. The Owners have authorized Berry Riddel, Tiffany Bosco and DMB Associates, Inc. (**"Applicant"**) to process a request to amend the existing Planned Community District with comparable Planned Regional Center (**"PCD-PRC"**) zoning district. The request is to update Schedule **"C"** which is the approved Land Use Budget (**"LUB"**) to add 500 additional residences and to decrease non-residential square footage by 1,300,000 square feet on the portion of One Scottsdale south of Legacy Boulevard (**"Request"**). The goal is to 'right size' the approved residential and commercial entitlements to create the critical mass necessary to support the future mixed-use plans for the overall project. The proposed entitlements are in conformance with current City of Scottsdale (**"City"**) General Plan and Greater Airpark Character Area Plan (**"GACAP"**). The following narrative expands on the Request and its necessity to allow for the continued development of this mixed-use development core at one of the City's major intersections at Scottsdale Road and the Loop 101 freeway.

ONE SCOTTSDALE

Background/History

In 2002, the City approved DMB's request for a development proposal that would create a retail based, mixed-use core at the intersection of the Loop 101 freeway and the City's signature roadway, Scottsdale Road. The approval created flexible zoning entitlements that allowed approximately 1.8 million square feet of commercial, office and retail uses, 400 hotel rooms and up to 1,100 residential units (**"2002 Entitlements"**). The 2002 Entitlements include requirements for master plans for water, wastewater, drainage, transportation and environmental design, all of which have been prepared and approved by the City.

One of the key components that allowed for the 2002 Entitlements was the comprehensive traffic analysis and recommendations that evolved from the zoning process. As a result, significant transportation infrastructure was required for the One Scottsdale project. Most of the required regional transportation improvements were constructed prior to any significant development occurring within One Scottsdale and have been in place for many years. In addition, the 2002 Entitlements allowed the City and DMB to

successfully attract a significant corporate user to the site, Henkel (previously Dial Corporation and now the Illume building).

With the development of the Henkel headquarters underway, DMB actively marketed the site as a pedestrian focused mixed-use development with luxury retail, residential and lodging. Given positive market response, pre-development began on the site including significant grading, drainage and utilities to serve the Henkel building as well as major earthwork for proposed underground parking garages. In addition, the 2002 Entitlements included significant regional transportation improvements. These improvements included the widening of Scottsdale Road on the east side, new traffic signals at Scottsdale Road and Henkel's main entrance, and at the intersection of Legacy Boulevard and Scottsdale Road, construction of Legacy Boulevard, coordination of Legacy Boulevard to Hayden Road through Arizona State Land parcels and the Loop 101 Freeway frontage road from Hayden Road to Scottsdale Road and others.

In 2016, the City approved an amendment to the zoning to allow for additional residential and non-residential entitlement. An additional 1,066,145 square feet of non-residential and 900 residential units (for PU II) was approved as well as the ability to go up to 90' in height in some restricted areas of PU II. As part of this approval, additional stipulations were approved including the need to potentially widen the west lane of Scottsdale Road to achieve a full 6-lane condition.

With all of the built infrastructure and future transportation improvements, and with development finally occurring at the site, One Scottsdale is poised to provide for a signature development within the City. The Illume campus in the southern portion of the property and the One North Scottsdale and Avion at Legacy residential developments in the northeastern portion of the property were the first properties to develop at One Scottsdale. Since 2021, additional properties have developed including the Home-to-Suites Hotel, construction of the Streetlights residential project, the Portico Condominiums and the retail shops and Ryan medical office building currently under construction. Additional properties have been sold with projects in various stages of the permitting and approval process.

Planning Unit III

One Scottsdale, north of the Loop 101 freeway, is divided into two (2) separate planning units, Planning Unit II and Planning Unit III. Planning Unit III within One Scottsdale is bounded by Thompson Peak Parkway on the north, Scottsdale Road on the west, Legacy Boulevard on the south and the western boundary of the Grayhawk community on the east. The LUB for One Scottsdale allows for a mixture of residential, hotel and commercial/retail/office uses within Planning Unit III. The LUB is specific for Planning Unit III as to the maximum number of residences (750 maximum), residential densities in certain areas and varying height limitations. The One North Scottsdale/Avion residential projects have utilized approximately 710 residential dwelling units allocated within Planning Unit III.

The Home-to-Suites hotel was constructed and opened in 2023 in the middle portion of PU III and is a 4-story, 130-room extended stay hotel. The Ryan Company has received approvals and is constructing One Scottsdale Medical, a two-story, 101,000 square foot office building. The office will be the home to the

City of Hope Cancer Center and Exalt Health. Additional projects that have received approval by the Development Review Board (“DRB”) and within PU III include the Quick Trip gas facility, a 10,700 square foot retail building; and a 17,000 square foot, 2-story medical office building. Approximately, 12 acres of property exist to be developed in PU III.

Planning Unit II

The Illume building is currently the only built and occupied development within Planning Unit II. Planning Unit II is bounded by Legacy Boulevard on the north, Scottsdale Road on the west, Arizona State Land Department (“ASLD”) property (“**Crossroads East**”) to the east and the Loop 101 to the south. Based on the 2002 Entitlements and with the amendment in 2016, Planning Unit II was envisioned as an intense and dense retail destination mixed-use development. Planning Unit II was afforded the highest building allowances (90 feet not including rooftop appurtenances which are allowed up to 100 feet in height), along with the ability to develop all or most of the allowed 2.8 million square feet of commercial/retail/office land uses and 1,250 residences.

Since 2016, several properties have been sold and are currently under construction. The Streetlights residential project consists of 314-residences being developed at the northeast portion of PU II just south of Legacy Boulevard and east of 73rd Way. Immediately south of Streetlights, the Portico condominium project is also under construction that includes 112 residences consisting of 1, 2, and 3 bedroom condos. Both projects will be completed in 2024. Immediately south of Portico, is the Grand Peaks residential project which has received approvals from the DRB). This residential project consists of 280 residences and is planned to start construction in the 3rd quarter of 2023. The fourth residential project that has been sold and will be submitted for DRB approval in the near future is the Talos project. They will propose a maximum of 352 residences. Approximately, 38 acres of land is remaining to be developed in PU II.



Surrounding Uses

To the north of Planning Unit III is the Discount Tire headquarters and Honor Health hospital (formerly Scottsdale Healthcare Thompson Peak). To the west, across Scottsdale Road is the City of Phoenix that is planned for dense and intense mixture of land uses with significant building heights (190 feet). To the south of Planning Unit II is the Loop 101 Freeway with the recently approved Optima project south of the freeway. To the east (of Planning Unit II) is the Crossroads East ASLD future mixed-use development with the ability to develop 60-foot high buildings adjacent to Planning Unit II. The Cavasson mixed-use project has been developed further east at the northwest corner of Hayden and the Loop 101. The closest off-site residential uses are the Villages at Grayhawk condominium development and Vi independent and assisted living facility that are located immediately adjacent to the Jefferson residences within Planning Unit III.

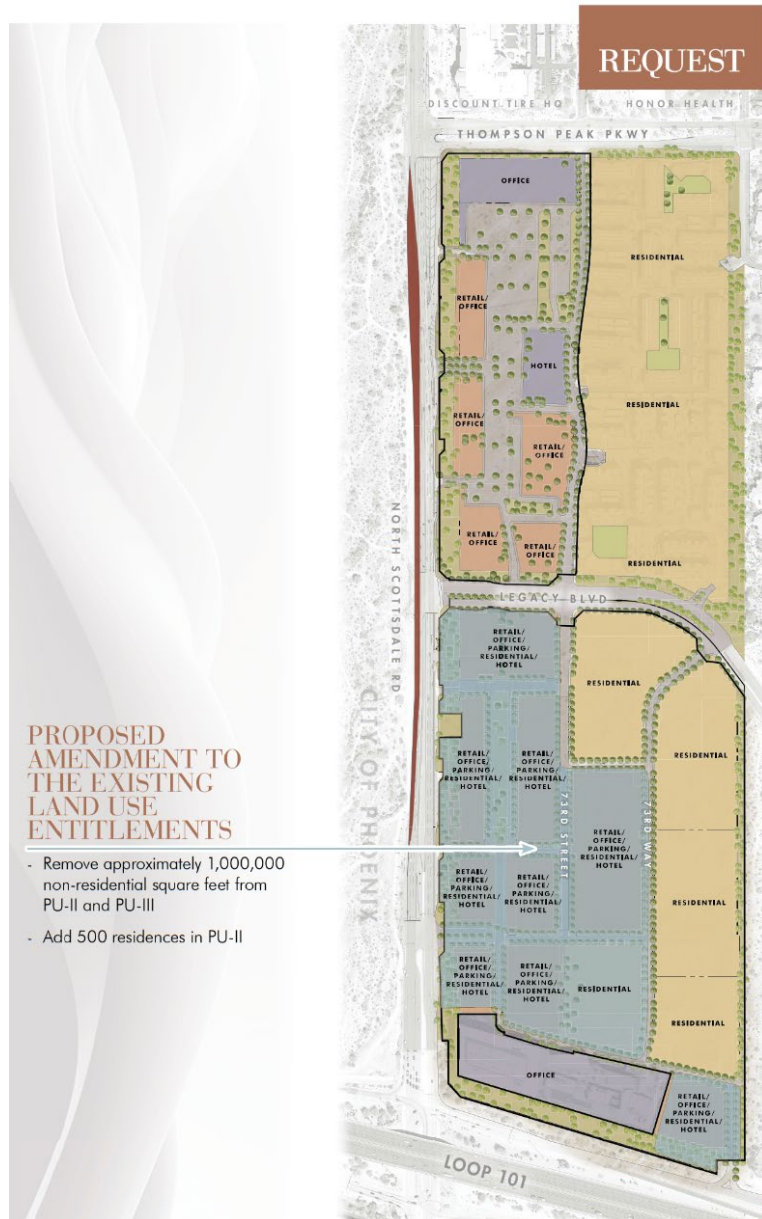
REQUEST

Amendment to Zoning

The existing PCD-PRC zoning district that was granted in 2002 and amended in 2016, afforded One Scottsdale the most flexible zoning option available in the City's Zoning Ordinance to develop an intense, dense, mixed-use project. The entitlements created a specific set of development standards, land use mix and off-site requirements which are utilized to guide development on the site.

The current request is to update the Project's existing zoning district (PCD-PRC) to significantly reduce the intensity of use allowed on the property by decreasing non-residential intensity and increasing the number of residences resulting in a significant overall reduction in intensity. The request continues to comply with the City's latest General Plan updates and Character Area planning efforts, including the GACAP. Due to its location, the Character Area Plan designates One Scottsdale as a higher scale development and regional core, which allows for the greatest intensity and density.

Our request is to update the existing approved entitlements to better implement the City's current General Plan and Character Area planning efforts. In doing so, we intend to request an overall reduction in intensity resulting in a more sustainable, compatible and appropriate development for this area. The requested additional residential and reduction in commercial/office square footage within the core of Planning Unit II is also supported by the City's Character Area planning efforts and will result in less impact on City infrastructure. This includes a 42% reduction in water use, 16% reduction in wastewater use, and a 15% reduction in weekday vehicle trips and 23% reduction in am and pm peak traffic times to and from the Property.



City of Scottsdale General Plan Analysis

Since the 2002 Entitlements for One Scottsdale and in compliance with the Growing Smarter state statutes, the City has continuously reviewed and updated their existing General Plan and Zoning Ordinance. The General Plan 2035 states:

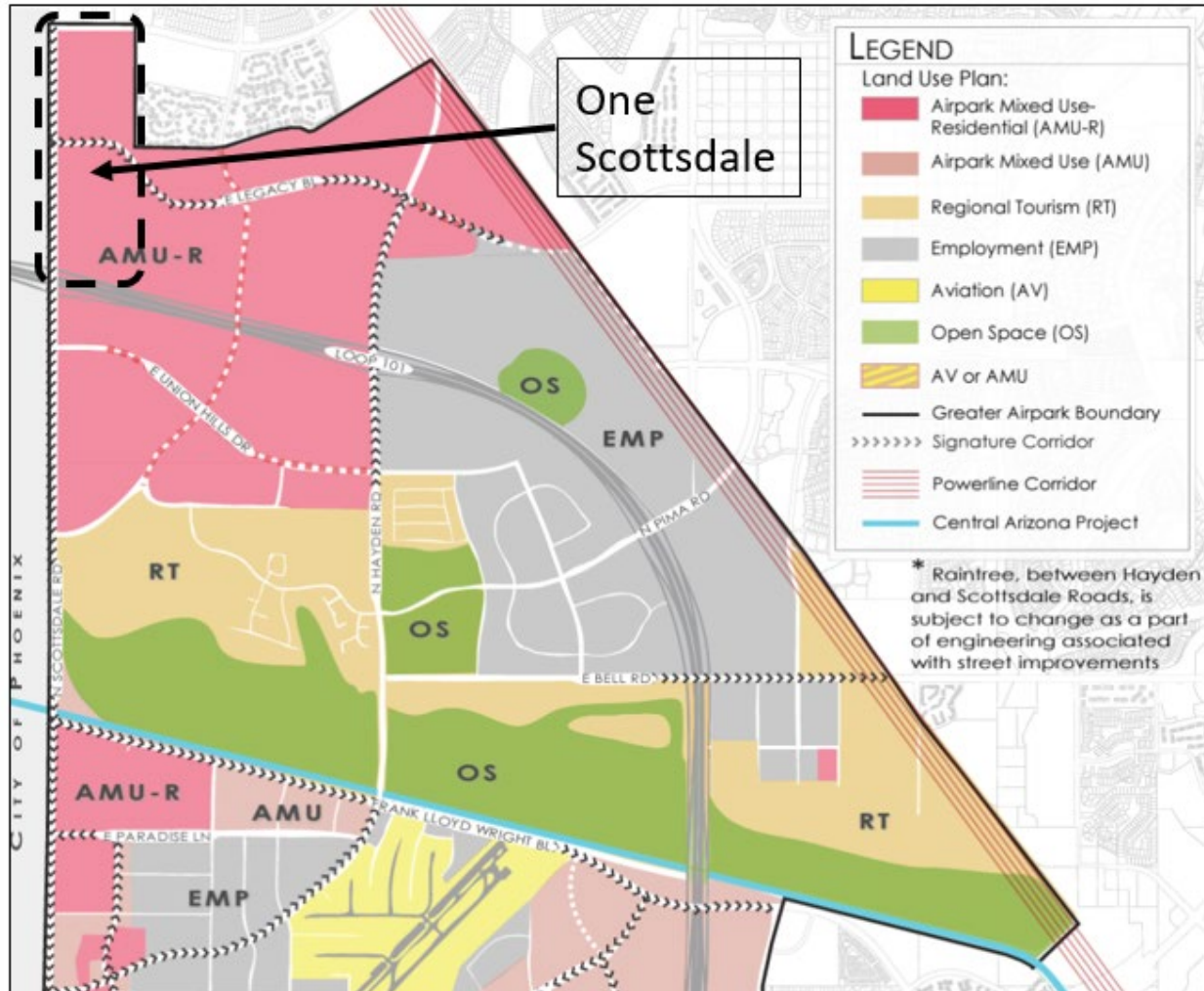
The General Plan is designed to be a broad, flexible document. Over time the General Plan is a living document that is legally amendable and manifested by many specific decisions and events that cause it to respond to the changing conditions, needs, and desires of the community.



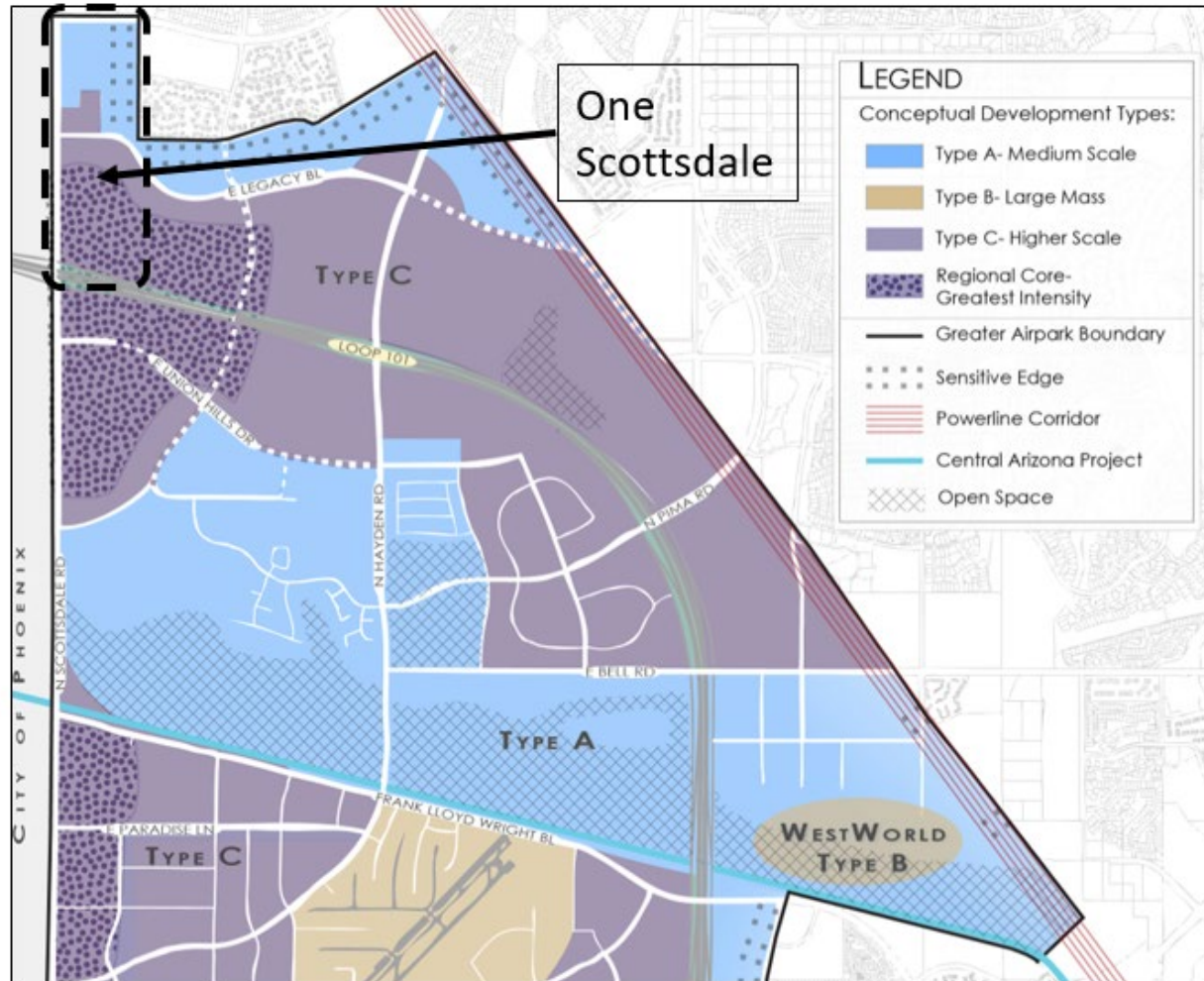
As stated above, the General Plan is designed to be updated to respond to changing conditions, needs and desires of the community. The City experienced significant growth during the early 2,000's and then a significant downturn in overall City growth during the late 2,000's. As a response to the downturn in the real estate market, the City focused on updating the General Plan along the freeway corridor and the greater airport region in an effort to recognize the important role this area plays in providing employment uses, mixed use, including residential to the City and the region.

One Scottsdale complies with the City's existing 2035 General Plan. The Property is still designated as Mixed-Use Neighborhoods with a Regional Use District overlay on the City's Conceptual Land Use Map. The 2002 Entitlements met all of the criteria of these two (2) land use designations by creating a development plan that included commercial/retail/office square footage, hotel uses and residential to create a mixed-use core development at the freeway interchange and Scottsdale Road. This vision, land use designation, current entitlements and requested entitlements continue to meet the land use element, along with the goals and policies, of the City's 2035 General Plan.

The request is to update the Project's zoning district (PCD-PRC) to comply with the City's latest General Plan updates and Character Area planning efforts. The Project lies within the City's GACAP. The Project's entitlements conform to the Airport Mixed-Use Residential (AMU-R) land use designation. See GACAP Land Use Plan below. The Character Area Plan designates One Scottsdale as a higher scale development and regional core, which allows for the greatest intensity and density. The request for more housing and 'right-sizing' the number of residents within the mixed-use community complies with the Conceptual Development Types identified in the GACAP for the Property.



GACAP Conceptual Development Types Map



Greater Airpark Character Area Plan Analysis

From the **General Purpose** provision of the City's General Plan, it states that there are three (3) levels of planning in the City: citywide, character area, and neighborhood. Character area planning description includes the following:

Level 2 - Character Area Planning: Develops Character Plans on a priority basis over a period of time and speaks specifically to the goals and special attributes of an identifiable and functional area; i.e., its land uses, infrastructure, broadly defined urban architectural design philosophy, and transitions. Character Plans will ensure that quality of development and consistency of character drive Scottsdale's General Plan at the Character Plan level, all within the context of community-wide goals.

The City Council, in 2007, embarked on creating a character area plan to address the changing conditions in the real estate market for one of the City's largest and most important employment cores. The goals of the GACAP included:

- Enhance mobility and wayfinding;
- Sustain existing neighborhoods;
- Encourage a variety of land uses and activities;
- Support and expand business diversity;
- Sustain and enhance aviation;
- Encourage recreation and open space;
- Promote sustainability and "green" design;
- Enhance identity and architecture; and
- Maintain and enhance the area's regional economic role.

Some of the items in the GACAP's purpose statement include maintaining the Greater Airpark as a national and international center for commerce and tourism; sustaining and enhancing the area as a major employment and aviation center; providing opportunities for the private sector to assume a strong leadership role and partnering with the City in building the future success of the Greater Airpark. The Request for One Scottsdale intends to further implement all of the items in GACAP's purpose statement. As part of the 2002 Entitlements, significant transportation infrastructure was constructed and completed to address regional linkages and capacity for development at One Scottsdale and the surrounding ASLD properties within Scottsdale and Phoenix. In doing so, the roadway improvements enhanced mobility in this area of the Greater Airpark, sustained existing neighborhoods by reducing regional traffic on neighborhood streets, and enhanced the area's regional economic role by creating a shovel ready site with operational roadway access.

The GACAP is drafted with specific chapters to fulfill the plans goals. The plan is divided into various topics including land use, neighborhoods and housing, aviation, community mobility, economic vitality, environmental planning, character and design, and public services and facilities. The GACAP is an update to the Greater Airpark area and General Plan that provides greater direction and development expectations for properties within this area of the City. The Request is an update to the 2002 Entitlements to further the recommendations set forth in the GACAP update.

GACAP Land Use

The Land Use chapter of the GACAP conceptualizes the Greater Airpark as a multi-faceted hub of commerce, employment, aviation, tourism, and recreation, as well as a center for growth in Scottsdale.

The Land Use chapter further states that characteristics of successful employment centers often include clusters of mutually supportive businesses, areas to relax and recreate, nearby access to a well-educated workforce, and transportation systems. The vision for the Greater Airpark includes a mix of uses and development types, standards to accommodate new types of development, and land uses flexible enough

to accommodate new technologies, innovative business enterprises, and market pressures without interfering with Airport operations.

In order to achieve the above GACAP direction, the GACAP Land Use Plan designates where certain land uses should be located within the Greater Airpark area. One Scottsdale is designated as an Airpark Mixed Use-Residential (AMU-R) land use designation. The AMU-R designations are appropriate for the greatest variety of uses that may include a combination of personal and business services, employment, office, institutional, cultural amenities, retail, hotel, and higher density residential. Developments in AMU-R areas should be pedestrian-oriented, have access to multiple modes of transportation, and should be located outside of the Airport's 55 DNL contour.

One Scottsdale's existing zoning is PCD-PRC which allows for an intense and dense mixed-use development plan and complies with the General Plan's Regional Use Overlay. One Scottsdale's existing zoning also complies with the GACAP's new AMU-R land use designation. Furthermore, the Request, to amend the land use budget within the existing zoning district is consistent with the GACAP Land Use Plan and the vision articulated by the City. One Scottsdale exemplifies the characteristics of the AMU-R. The 2002 and 2016 Entitlements proposed a mixed-use destination of retail, employment, hotel, and residential uses. The Request is to further enhance this goal and provide a dynamic campus with support retail, restaurants, and corporate and employee housing options, all in accordance with City goals and policies.

Finally, Scottsdale Road and Legacy Boulevard are designated as 'signature corridors' on the GACAP Land Use Plan. One Scottsdale has an existing requirement to dedicate a significant scenic corridor along its Scottsdale Road frontage. The scenic setback from the roadway provides a natural, vegetated buffer to what is proposed to be a built environment consistent with the purpose, goals and vision of the GACAP. Scottsdale Road and Legacy Boulevard were widened and built by DMB for the purpose of providing the City with significant transportation infrastructure.

The Land Use chapter further lays out the character of development in each of the areas within the Greater Airpark. The GACAP Character Area Plan identifies three (3) conceptual development types on a map. Refer above to the GACAP Conceptual Development Types Map. The three development types are medium scale, larger mass and higher scales. Within the higher scale development areas, there are two (2) main 'Regional Core – Greatest Intensity' areas. One is along Scottsdale Road from Frank Lloyd Wright Boulevard south to Butherus Road. The other is from One Scottsdale (south of Legacy Boulevard) from Scottsdale Road on the west into the ASLD lands to the east on the north side of the Loop 101 Freeway.

As recognized by the City's goals and policies, the goal of the Request is to create a core south of Legacy Boulevard. The GACAP designates the land south of Legacy Boulevard as a Higher Scale, Regional Core-Greatest Intensity designation. This creates a unique opportunity for the future of property south of Legacy Boulevard. The GACAP states that development within the Higher Scale designated areas should be encouraged in areas with access to multiple modes of transportation, served by regional transportation networks (i.e. freeways), and where the scale will complement the area's character. Type C development is appropriate in areas next to both Types A and B development. Type C is not recommended immediately

adjacent to the Scottsdale Airport. The Regional Core designation (Land Use, Conceptual Development Types Map, land use description page 16) means areas appropriate for the greatest development intensity in the Greater Airpark to support major regional land uses. Regional Core is only appropriate in Type C areas that are or will be served by high-capacity transit or a freeway. Regional Core areas should not be located adjacent to single-family residential areas or within Type A or B development areas.

Furthermore, One Scottsdale's existing and proposed entitlements meet all of the criteria and descriptions of the both the GACAP's Land Use Plan and the Conceptual Development Types Map. The northern portions of One Scottsdale are entitled for lower building intensity and heights to buffer and transition to nearby adjacent development within Grayhawk. An additional 'not to exceed' height is also incorporated into the One Scottsdale entitlement that matches the existing height of 1710 feet of the Discount Tire headquarters roof line at the northeast corner of Scottsdale Road and Thompson Peak Parkway. These restrictions are in accordance with the GACAP Conceptual Development Types Map, which allows for a mixture of higher scale development adjacent to Legacy Boulevard (north of Legacy Boulevard) while providing for Medium Scale and Sensitive Edge conditions adjacent to the Grayhawk community.

In addition, the Higher Scales designation on the Conceptual Development Types Map is also labeled with a 'Type C' designation. Refer to Development Types Map above. Type C development represents more intensity with taller buildings with varying mass and a pedestrian orientation. The proposed development plan will implement the strategies outlined in the GACAP with the intention of building a pedestrian oriented project that creates open space plazas within a higher scale development. One Scottsdale is seeking to further implement the GACAP by modifying existing entitlements to better implement the purpose, goals, and vision of the Greater Airpark area.



GENERAL PLAN

The General Plan (Scottsdale General Plan 2035) was adopted by City Council on June 8, 2021 and ratified by the Scottsdale voters in November 2021. Building upon decades of planning and thousands of hours of community involvement, General Plan 2035 guides the physical development of Scottsdale and acts as a blueprint to enhance our community aspirations—Exceptional Experience, Outstanding Livability, Community Prosperity, and Distinctive Character. The General Plan is a broad, flexible document that changes as community needs, conditions, and direction change.

Scottsdale's General Plan promotes the community's vision by establishing goals and policies for each of its 24 elements. The following is an analysis of the requested update to the One Scottsdale development plan and its conformance with the General Plan 2035. The following are excerpts from the applicable 24 elements of the City's General Plan.

CHARACTER & DESIGN ELEMENT

Introductory Excerpt: Scottsdale residents and visitors place extraordinary value on the diverse character and unique design qualities of our Sonoran Desert community. Each neighborhood setting holds an important image that, when grouped together, completes the Scottsdale mosaic. Whether in urban, suburban, rural, or native desert settings, the community provides a broad palette of experiences, visual expressions, and quality design. Scottsdale's rich design heritage is a product of proactive, creative, and inspired solutions to community design opportunities and issues. Examples include strong signage and landscaping standards, the Development Review Board, the Environmentally Sensitive Lands Ordinance (ESLO), the Indian Bend Wash Greenbelt, Scenic Corridors, and Scottsdale Sensitive Design Principles. Good design sensitively responds to and strikes a balance among the character of the surrounding natural and built settings and the community's historical, cultural, and environmental resources. The beauty of our natural features, including the Sonoran Desert, mountains, and desert washes, provides a unique backdrop to the community. Our well-designed neighborhoods, businesses, recreational and cultural facilities, and public spaces combine to further make Scottsdale a desirable and memorable community. The goals and policies of the Character & Design Element focus on the important aspects, connections, transitions, and blending of characters that ensure our community evolves as an integrated mosaic.

Response: One Scottsdale is located at Scottsdale's signature roadway and the Loop 101 Freeway. The Greater Airpark Character Area Plan ("GACAP") and General Plan designate the Property as urban. Since, 2002, One Scottsdale has been approved as an urban, mixed-use project. The proposal enhances One Scottsdale status as a mixed-use project that will continue to create a broad palette of experiences, visual expressions, and quality design. The Project is at the gateway of the City's scenic corridor along the east side of Scottsdale Road. The proposal maintains a balance between the natural and built environments on the City's signature roadway.

Character Types Excerpt: CHARACTER TYPES: Character Types describe the general pattern, form, and intensity of development. Character Types are distinct from zoning districts and land use categories. The Zoning Ordinance will govern specific development standards, such as building height, by zoning district.



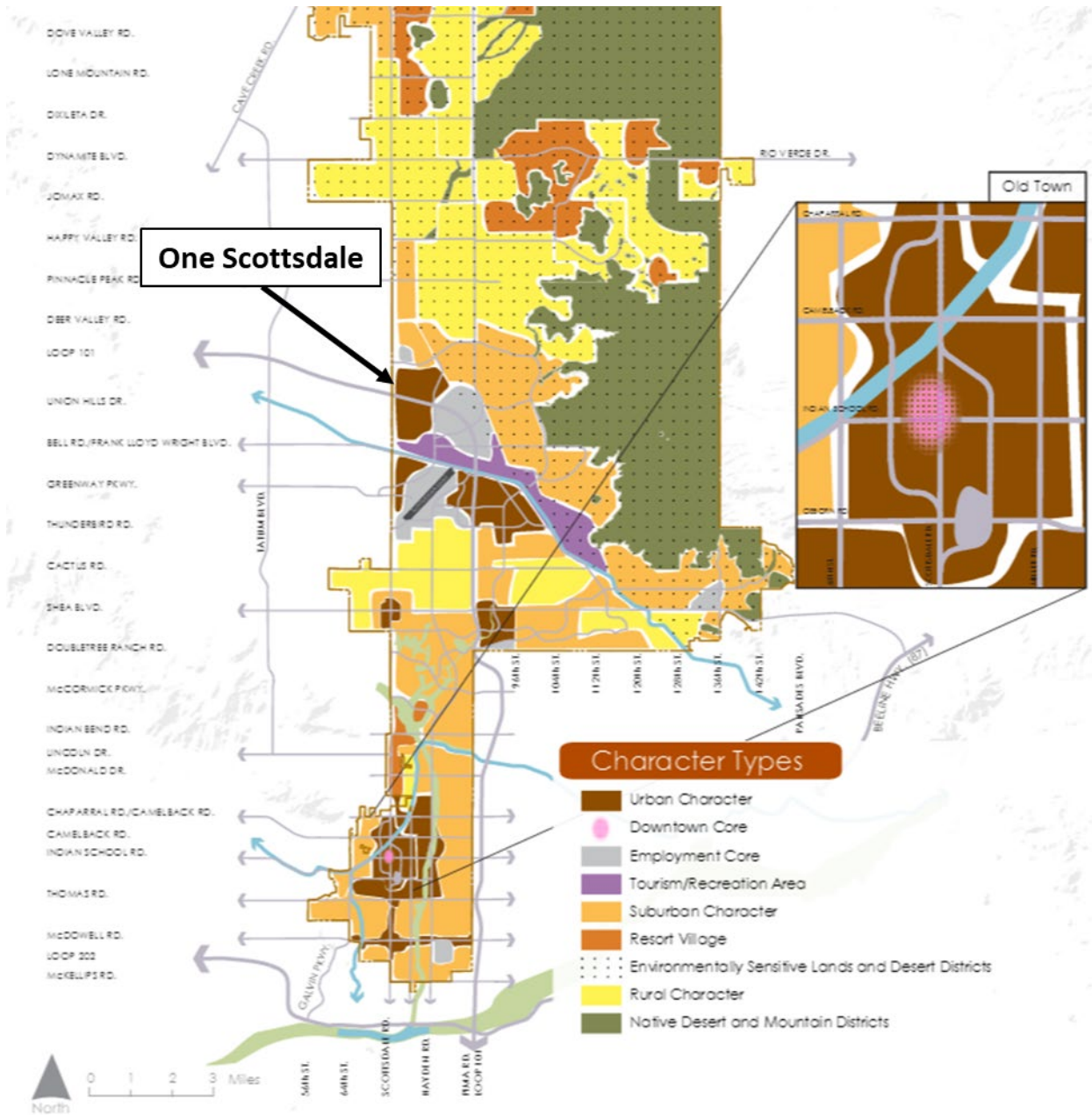
Per State Statute, Scottsdale must designate and maintain a broad variety of land uses and include density standards pertaining to land use categories that have such. Please reference the Land Use Element for that information.

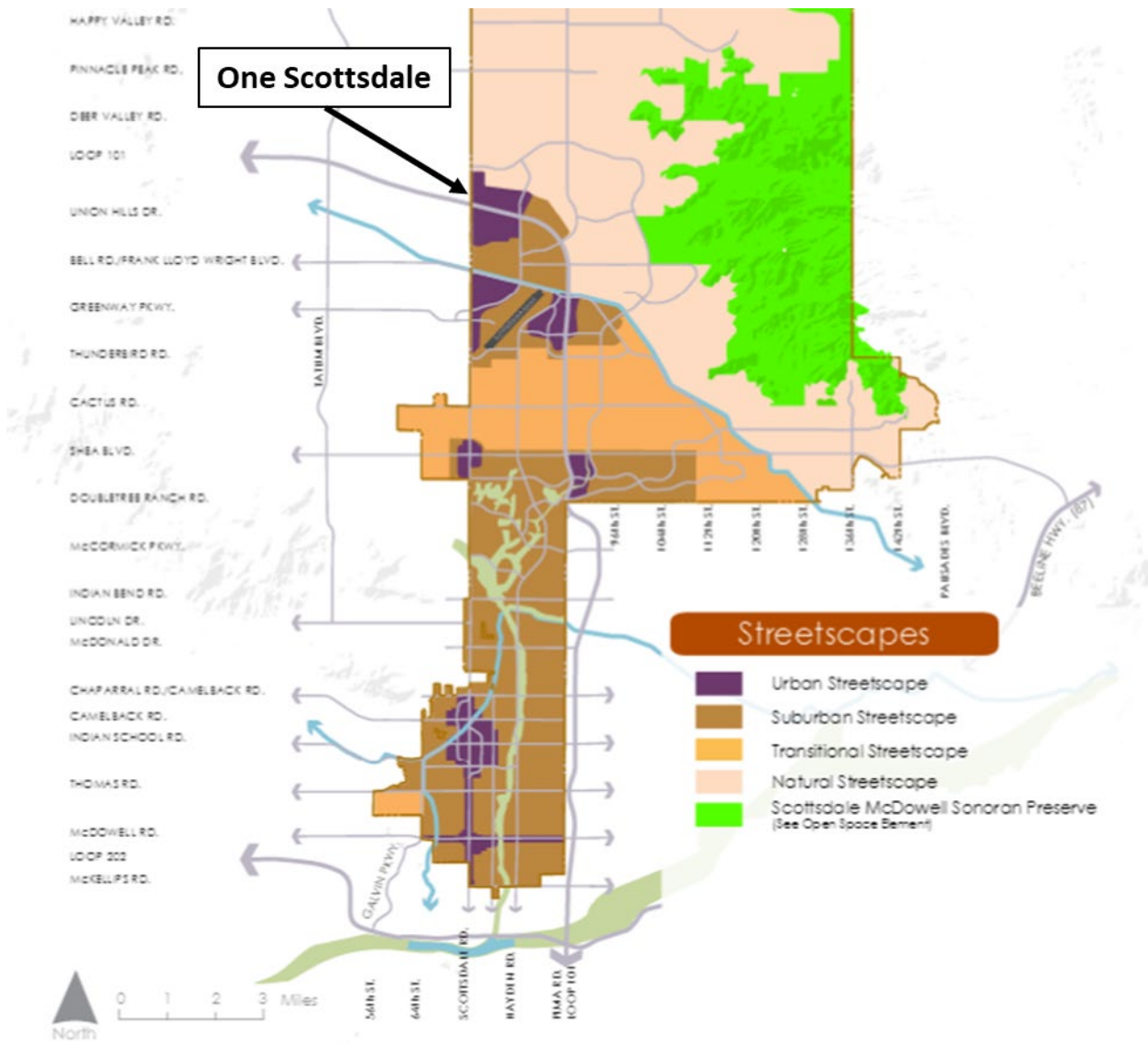
■ Urban Character Types consist of higher-density residential, non-residential, and mixed-use neighborhoods, including apartments, high-density townhouses, business and employment centers, and resorts. Development in Urban Character Types should have pedestrian orientation, shade, activity nodes, and useable open spaces that encourage interaction among people. Building form and heights typically transition to adjacent Rural and Suburban Character Types. Taller buildings may be appropriate in Growth Areas, depending on context (see Growth Areas Element). Examples include Old Town Scottsdale, a mixed-use center of distinct urban districts; mixed-use portions of the Greater Airpark, particularly along Scottsdale Road; areas within the Scottsdale Road and Shea Boulevard Couplet; and the HonorHealth hospital/medical campus near Shea Boulevard and 90th Street.

Response: One Scottsdale's existing approved entitlements are designed to create an urbanesk, mixed-use core within Planning Unit II. With the Property's designation as an urban character type, the proposal seeks to 'right-size' the mix of residential units within the Project. Creating the appropriate 'critical mass' of residential and non-residential uses will enable One Scottsdale to fulfill the character type designed for this area of the City. The development will create a building form that creates a mixed-use neighborhood, including multi-family, townhouses, condominiums, business and employment uses, and hospitality. One Scottsdale will have pedestrian orientation, shade, activity nodes, and useable open spaces that encourage interaction among people as envisioned in this Character Type.



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Employment Core Excerpt: Employment Cores are primary employment centers for the city. These areas are predominately concentrated in the Greater Airpark Character Area, a mixed-use employment core with primary freeway access, as well as around other major employment campuses, such as the Mayo Clinic and General Dynamics. Employment Cores support a wide range of activities, such as aviation, light-industrial, and regional- and community-level employment uses. These areas consist of multi-functional buildings with an emphasis on technology and corporate character. Taller building heights are found within the core, and low-scale building heights are typically found within the transition areas adjacent to Rural and Suburban Character Types. The Greater Airpark Character Area Plan denotes appropriate locations for height and intensity in the Airpark area. (See also: Growth Areas Element).

Response: The Employment Core within the GACAP is described as a mixed-use employment core with primary freeway access. The Property's location within the GACAP supports the nearby employment cores

of the airport, Cure Corridor, and nearby Cavasson project. One Scottsdale will continue to provide the mixture of uses that supports the employment core with residential, service, restaurant, and retail uses.

Goal CD 1 Determine the appropriateness of all development in terms of community goals, surrounding area character, and context.

CD 1.2 Consider the effects of building height, overall development density, and building orientation on adjacent neighborhood character, privacy, and viewsheds

Response: One Scottsdale is strategically positioned at a major arterial and freeway, an area long designed for more intense development. Adjacent lands to the west and east are planned for more intense uses similar to One Scottsdale and the areas to the north is built with low scale office and medical use. Sensitivity to uses to the east in Grayhawk have long impacted the One Scottsdale project resulting in compatible residential uses abutting the long existing residential in Grayhawk. The proposed additional housing will be placed south of Legacy Boulevard within Planning Unit II. For over twenty years, One Scottsdale has considered the effects of building height by providing for lower building heights, intensity, and density north of Legacy Boulevard while providing for greater building heights and density south of Legacy Boulevard away from established neighborhoods in Grayhawk. The proposal does not seek to increase building height and concentrates the increase in housing away from adjacent neighborhoods with lower building height while reducing non-residential building massing and intensity.

CD 1.3 Ensure that all development is a part of and contributes to established Character Types.

Response: The Property is within the urban character type and when completed, One Scottsdale will be a part of and contribute to the established Character Type in a manner that complements and is consistent with other uses north of the Loop 101..

CD 3.1 Strengthen Scottsdale's economic and environmental attributes, distinctive character, and attractiveness through collaborative site planning and design.

Response: One Scottsdale has developed over time with a distinctive character transitioning from a more suburban character on the north to a more urban character on the south as you get closer to the Loop 101. The adjustment in residential units and non-residential square footage for the Project provides for an environmental attribute with lower water usage than the existing approved land use entitlements. With a major corporate headquarters building to the south, an acute care facility to strengthen Scottsdale's Cure Corridor on the north, and quality mixed-uses in between, the Project will strengthen Scottsdale's economic stature. One Scottsdale's approved architectural styles and diversity of architecture will also create an even more attractive mixed-use development.

Goal CD 4 Enhance the design of streets and public spaces to improve Scottsdale's visual quality, experience, Sonoran Desert context, and social life.

Response: One Scottsdale's private streets are designed with an urban, pedestrian feel to add to Scottsdale's social life within the Project. With the scenic corridor and paths and trails throughout the

Project, One Scottsdale provides public and open spaces to improve Scottsdale's visual quality and to experience its Sonoran Desert context. These features, including the significant Scenic Corridor along Scottsdale Road provide a gateway to north Scottsdale, announcing the importance of the desert openness of this area. Additionally, within the site, comfortable walkways and paths offer opportunities for people to traverse the area and provide for social gathering spots.

CD 4.3 Establish new, and maintain existing, guidelines and policies for the design and maintenance of Visually Significant Roadways and major city streets, including Scenic Corridors, Buffered Roadways, Desert Scenic Roadways (in ESLO districts), and streets with themed streetscape designs.

Response: One Scottsdale is the first development north of the Loop 101 Freeway on Scottsdale's signature road. Since 2002, the Project has provide a substantial scenic corridor along the east side of Scottsdale Road. The significant Scenic Corridor along Scottsdale Road provide a gateway to north Scottsdale, announcing the importance of the desert habitat of this area.

LAND USE ELEMENT

Goal LU 1 Enhance Scottsdale's economic viability by encouraging land uses that reinforce the City's reputation as the premier international tourist destination in the Southwest and sustain the City's role as a regional cultural center and economic hub. Land uses should be compatible with Scottsdale's character and physical appearance.

Response: One Scottsdale is located at northeast corner of Scottsdale Road and the Loop 101. The Property's approved entitlements include a substantial scenic corridor, building height transitions from Scottsdale Road to the nearby Grayhawk development, master planned access points, trails and paths around the Project and a unique mixed-use land plan. The proposed changes enhance these Project attributes.

LU 1.1 Encourage land uses that preserve a high quality of life and further define Scottsdale's sense of place within the region.

Response: One Scottsdale has been planned for a mixture of land uses at the City's signature road and the City's only freeway. 'Right sizing' the residential component and non-residential component of the Project will further refine Scottsdale's sense of place within the region while providing additional housing intended to serve existing and future employment in the area.

LU 1.2 Celebrate Scottsdale's desert city image by preserving natural open space and natural ecosystems.

Response: The Project's scenic corridor and provision of internal and perimeter open spaces accentuates Scottsdale's desert city image. The significant Scenic Corridor along Scottsdale Road provide a gateway to north Scottsdale, announcing the importance of the desert habitat of this area.

LU 1.4 Collaborate with adjacent jurisdictions to understand the dynamics of, and coordinate on, emerging and redeveloping areas adjacent to the City boundary.

Response: The community goals for One Scottsdale and the surrounding area have been revised with the City's update to the General Plan and the adoption of the GACAP. This area, from Scottsdale Road east along both sides of the Loop 101 Freeway corridor to Bell Road allows for 'Higher Scale' development. The area inclusive of a majority of One Scottsdale south of Legacy Boulevard east to Miller Road within the Crossroads East land area on both sides of the Loop 101 Freeway is designated as a Regional Core designation. This designation denotes areas appropriate for the greatest development intensity in the Greater Airpark to support major regional land uses. Regional Core is only appropriate in Type C areas that are or will be served by high-capacity transit or a freeway. The request does not include any additional building height for the Project. The request for additional housing and reduction in commercial square footage continues to meet the goals set forth in the GACAP Regional Core designation. The amendment request respects the natural environment, site conditions and unique character of the area. Furthermore, the amendment is consistent with the land plan for the Crossroads East development to the east. Finally, the amendment respects the heights, residential density, and intensity adjacent to the multi-family areas east of One Scottsdale within Grayhawk.

LU 2.1 Ensure neighborhood "edges" transition to one another through compatible land uses and development patterns.

Response: The proposal does not impact any of the edges of One Scottsdale. A majority of the eastern boundary of One Scottsdale is either developed, under development, or approved for development. The proposed additional housing reduction in non-residential square footage impacts internal areas of the Project.

LU 3.1 Allow for the diversity and innovative development patterns of residential uses and supporting services to provide for the needs of the community.

Response: One Scottsdale's existing approved entitlements provides for a diversity of land uses within a master planned community. The request seeks additional residential uses at a location in Scottsdale along a major thoroughfare (Scottsdale Road) and the City's Loop 101 freeway. One Scottsdale will provide for a mixture of land uses that will allow for residents to live, work, and play in the area.

LU 3.2 Integrate housing, employment, and supporting infrastructure, primarily in mixed-use neighborhoods and Growth and Activity Areas, to support a jobs/housing balance.

Response: One Scottsdale meets this policy by integrating housing, employment, and supporting infrastructure within the limits of the development. One Scottsdale is located just to the south of Grayhawk and west of the Cavasson master planned developments. Together, they create a connected network of land uses that support each other and connects needed infrastructure. The mixture of uses will support the City's jobs/housing balance.

LU 4.1 Integrate land uses and transportation systems to allow for a variety of mobility choices.

Response: One Scottsdale built its significant transportation infrastructure upfront in the early 2000's. As a result, the surrounding Grayhawk and north Scottsdale traffic has been able to utilize wider lanes on

Scottsdale Road and a Legacy Boulevard connection from Scottsdale Road east to Hayden Road for approximately twenty (20) years. Growth in the area has utilized the benefits of the improved roadway system in and around the Project. One Scottsdale's compact design will include sidewalks internal to the Project with a pedestrian system throughout, around, and within the Project. Bus stops and electric vehicle charging stations are now developed or proposed as part of the evolving Project and future mobility enhancements will be included in the Project.

LU 4.2 Provide opportunities for pedestrian-oriented development, reduced parking demand, and context appropriate mobility choices.

Response: One Scottsdale's master pedestrian circulation plan, sidewalks, paths, and trails provide for various internal and external pedestrian access opportunities. The continued and refined mix of land use will also result in reduced parking demand and greater use of multi-modal travel options.

LU 4.3 Locate regional land uses and intensities in Growth and Activity Areas to provide the greatest access to various modes of transportation.

Response: One Scottsdale's prime location at Scottsdale Road and the Loop 101 Freeway allows for the greatest access to various modes of transportation and in keeping with city plans, concentrates intensity at the major transportation corridors. The request ultimately reduces the overall vehicular traffic impacts to the area by eliminating a significant amount of development intensity.

LU 5.1 Encourage a variety of compatible mixed-use land uses within or next to Growth and Activity Areas, along major streets, and within particular Character Areas to reduce automobile use and improve air quality.

LU 5.2 Concentrate greater development intensities in Growth and Activity Areas, thereby reducing development pressures in low-density areas and conserving energy.

Response: One Scottsdale includes corporate office, medical office, hospitality, retail, restaurants, and for-sale and rental residential within a soon to be built mixed-use core. The proposal intends to concentrate greater development intensities within Planning Unit II, south of Legacy Boulevard. The additional residential units will provide for employer and employee housing for the surrounding Growth and Activity Centers, much of which will be developed in the future on ASLD lands. The pedestrian trails, paths, and numerous internal sidewalks within the Project will reduce automobile use and improve air quality.

Goal LU 6 Attract and retain diverse employment, business, and retail land uses to improve the economic well-being of Scottsdale's residents.

LU 6.1 Promote opportunities for the expansion and revitalization of employment and commercial uses within the city.

LU 6.2 Support well-planned, clustered employment centers of related or similar uses such as Healthcare and Research and Development land uses.

LU 6.3 Encourage commercial land uses of similar scale and character in proximity to or within medium- to high-density residential areas to promote walkable connections.

Response: One Scottsdale will be 'book-ended by two (2) major office buildings on the north and south sides of the Property. With one building at 475,000 square feet and the other at 115,700 square feet, the initial stages of the project is prioritizing employment uses within the Greater Airpark area. Additional hospitality and retail uses are being developed within Planning Unit III. Additional land availability within Planning Unit III (north of Legacy Blvd.) will provide for additional office, retail and service uses. The majority of the eastern side of the Property is flanked with quality residential uses. The proposal, although to decrease the non-residential square footage, still provides for over 975,000 square feet of potential 'class A' office or retail, restaurant, service uses to the overall mixed-use community. The mixed-use, walkable design is unchanged by this development plan amendment. An allowance for 1.5+ million square feet of non-residential square footage entitlements on approx. 100 acres including significant multi-family mixed-use is ample square footage to implement quality employment as envisioned by the General Plan and Greater Airpark Character Area Plan. With the proposed additional housing, a significant core of medium- to high-density residential development within the Project will have ample walkable connections to the surrounding commercial and employment core.

ARTS, CULTURE & CREATIVE COMMUNITY ELEMENT

Goal ACC 3 Promote creative placemaking to revitalize neighborhoods, enhance sense of place, celebrate cultural heritage, and strengthen community character.

ACC 3.1 Integrate art into public programs, natural features, civic buildings, infrastructure, and other community assets to strengthen sense of place.

ACC 3.4 Integrate public art at various scales into the built environment citywide.

Response: One Scottsdale has an approved Master Environmental Design Concept Plan ("MEDCP") that will continue to guide placemaking opportunities within the Project. For example, a recent Development Review Board approval of a residential project within Planning Unit II has four (4) locations for the placement of public art.

SUSTAINABILITY & ENVIRONMENT

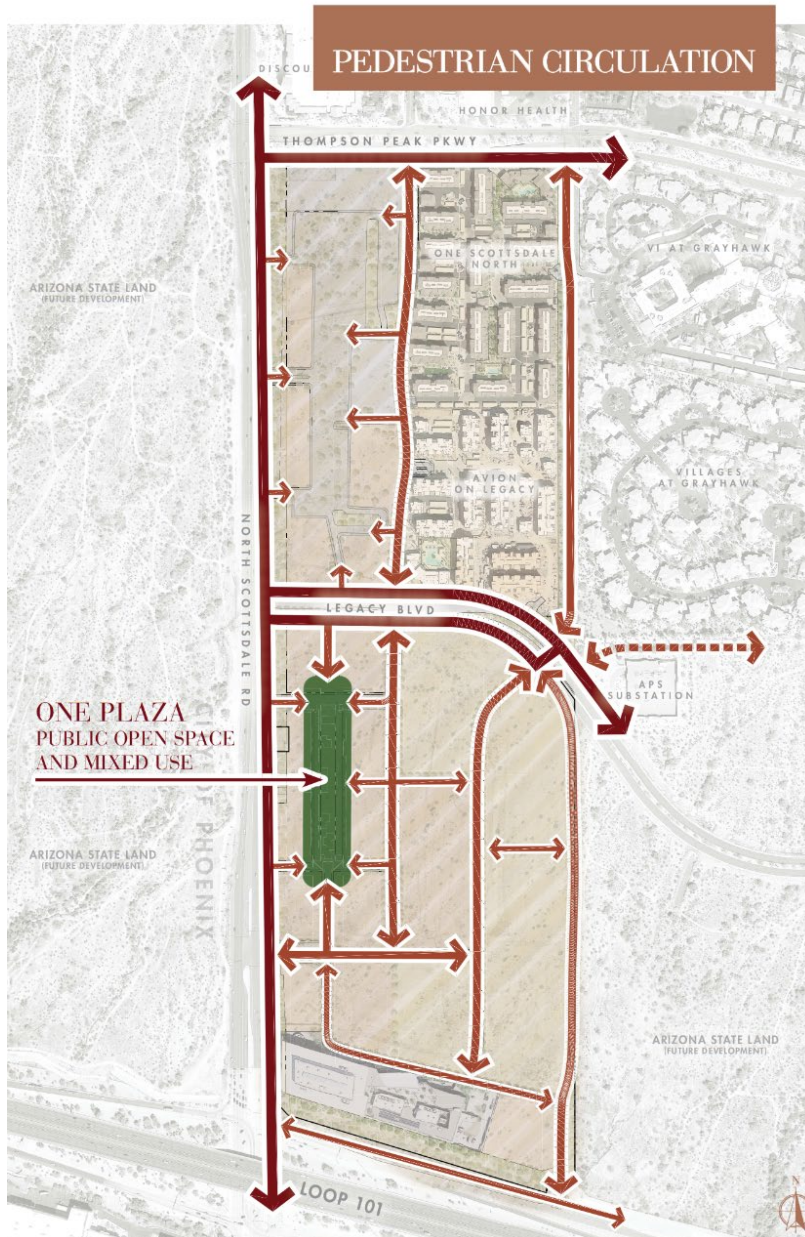
OS 1.3 Continuous Open Spaces. Develop a system of continuous open spaces that connect citywide and regionally. Such open spaces include washes (inclusive of Vista Corridors), streetscapes, wildlife corridors, trails, and canals.

OS 1.4 Developed Open Space. Offer public and private parks and open spaces to accommodate both active and passive recreation.

Response: One Scottsdale is implementing a scenic corridor along the Scottsdale Road frontage. Within that scenic corridor and other open space areas, the Project will provide trails, passive recreation, and seating areas for residents, employees, and visitors.

OS 4.1 Develop a public trail and path system that links to other City and regional systems.

Response: One Scottsdale has developed a path and trail system through the scenic corridor and along the east side open space area to allow for public access around the entire Property. Numerous internal sidewalks and paths provide for direct access throughout the Project. The paths, trails, and sidewalks all connect to the north and east for the use of neighborhoods.



OS 4.3 As development and redevelopment occurs along transportation corridors, ensure the preservation of mountain viewsheds, the Sonoran Desert, natural features, and landmarks that enhance the unique image and aesthetics of major streets through open space buffering. The following Visually Significant Roadway designations should be applied:

■ Scenic Corridors should be designated along major streets where a significant landscaped buffer is needed between streets and adjacent land uses, where an enhanced streetscape appearance is desired, and where views to mountains and natural or man-made features will be maximized. Scenic Corridors may provide enhanced opportunities for open space, scenic viewing, trails, and pathways in the community.

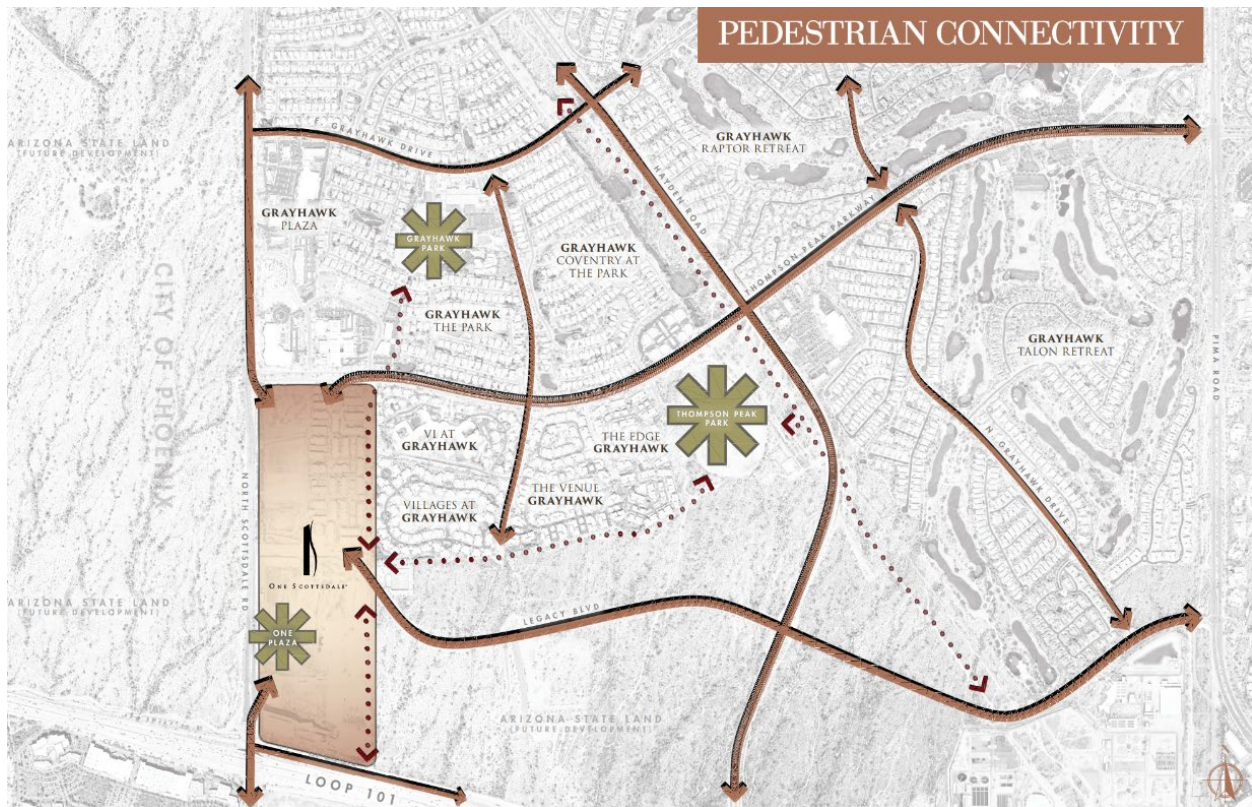
Response: One Scottsdale provides for a significant scenic corridor along the City's signature roadway. The provision of a scenic corridor directly north of the City's lone freeway creates a constant scenic corridor along the east side of the road consistent with this policy. In addition, building heights/elevations are stepped back from the scenic corridor along Scottsdale Road.

OS 4.4 Encourage the use of drainage areas, Vista Corridors, and transmission line corridors as open space opportunities.

Response: To better utilize drainage areas on the site, the Property owner undergrounded some of the drainage and provided a more walkable open space and pedestrian corridor along the entire east side of the Project. Some drainage is contained in the northern portion of the path.

OS 5.2 Locate publicly accessible and useable open spaces within Growth and Activity Areas and established neighborhoods.

Response: All paths, trails, and sidewalks along the internal streets are accessible to the public.



OS 8.5 Create usable open spaces from existing rights-of-way, sidewalk widening, street realignment, development of trails, and other creative solutions.

Response: One Scottsdale is designed with internal private streets and enhanced sidewalks with public access.

ENVIRONMENTAL PLANNING

EP 3.1 Reduce automobile emissions through traffic management; transportation improvements; promotion of a wide variety of mobility options; travel demand reduction strategies; expansion of regional connectivity; and use of electric and alternative fuel vehicles.

Response: The Request seeks to add housing and reduce non-residential intensity, and thereby decrease traffic to and from the site. With the transportation infrastructure in place, this 'down-zoning', as it relates to traffic, will reduce automobile emissions through strong pedestrian and bike connectivity within and to and from adjacent development. Electric vehicle charging stations will be provided.

EP 5.5 Expand Green Building construction standards to include all new and remodeled residential and commercial buildings

Response: New construction at One Scottsdale will comply with the City's green building construction standards.

Goal EP 7 Identify and reduce heat islands.

Response: One Scottsdale is designed with private tree lined streets and driveways and surrounded by scenic corridors and landscaped walking paths. The lack of large, paved parking lots within Planning Unit II as part of this Request will help reduce the urban heat island effect.

CONSERVATION ELEMENT

Goal Consv 4 Conserve water and encourage the reuse of wastewater.

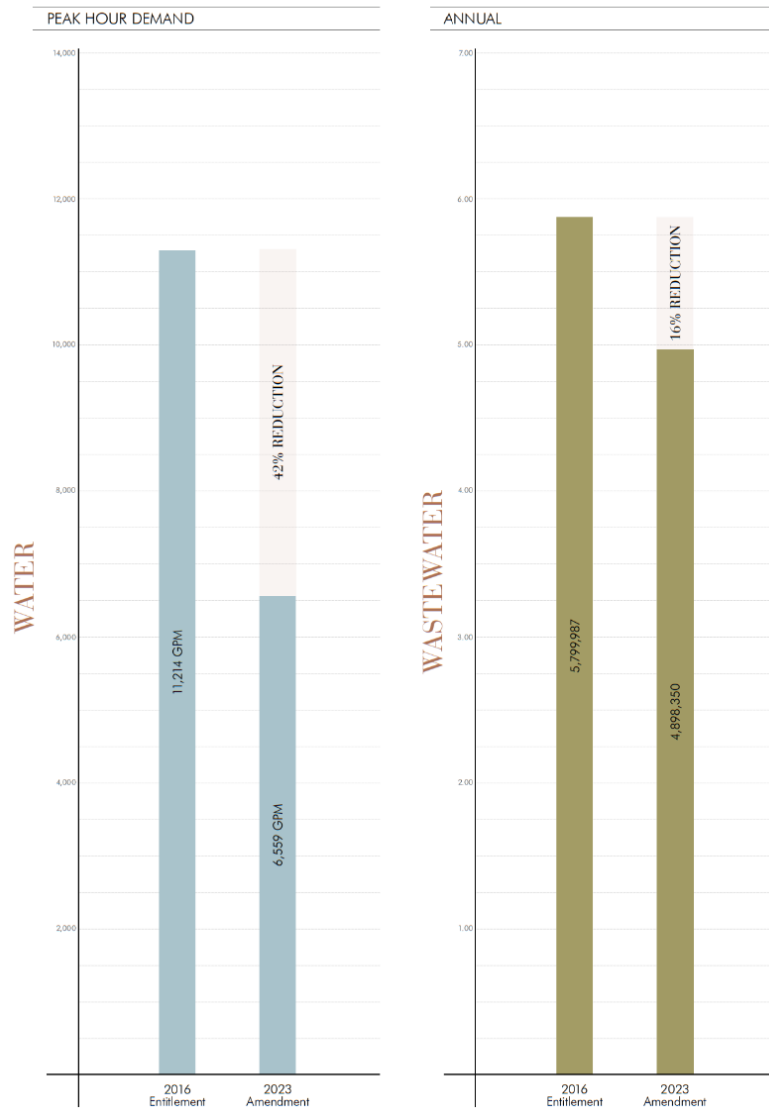
Response: The adjustment of the land use budget, reduction of significant non-residential square footage and the addition of housing, will result in approximately thirty-to percent (32%) reduction in water use compared to the existing and approved land use entitlements, as calculated using the criteria noted in the approved development agreement. More specifically, the reduction of approximately 1.2 million square feet of office use, and 190-thousand square feet of retail space results in a reduction of approximately 2,100 gallons per minute at the peak hour. The addition of 500 dwelling units and 15,500 square feet of restaurant results in approximately 330 peak hour gallons per minute of additional water demand. The resulting net demand is a reduction of approximately 1,770 gallons per day at the peak hour.

Using the design criteria in the approved development agreement, the changes to land use result in a slight decrease in the total wastewater demand. Coordination with the City of Scottsdale Water Resources department is ongoing to determine the final design criteria. Using the design criteria noted in the 2018



Design Standards and Policy manual, the proposed land uses were calculated to reduce the overall water demand by 42% and reduce the overall wastewater demand by 16%.

WATER & WASTEWATER



COMMUNITY INVOLVEMENT

Goal CI 1 Seek early and ongoing community involvement through broad public input in project and policy-making discussions.

CI 1.1 Maximize opportunities for early notification of proposed projects using a variety of methods.

Response: Our outreach started with our most direct residential neighbors/community, Grayhawk. We contacted their homeowners association (“HOA”) board of directors and had an initial meeting to kick-off our community involvement. The HOA board of directors recommended an initial Grayhawk resident open house and informational meeting prior to the required City open house. We conducted an open house in the Grayhawk board offices as our initial outreach meeting. There were approximately twenty-five (25) attendees to discuss our proposal. As was done when One Scottsdale was initially entitled in 2002, the Grayhawk community was our initial outreach.

CI 4.3 Seek to involve community groups, HOAs, and other organizations in the sharing of both City and project information.

Response: We engaged with the Grayhawk community and their HOA on our land use proposal before our required City open house. We will continue to share with Grayhawk and other community groups through the entire process.

HOUSING ELEMENT

Goal H1 Support diverse, safe, resource-efficient, and high-quality housing options.

Policy H1.4 Support the creation of mixed-use projects, primarily in Growth and Activity Areas, to increase housing supply within walking distance of employment, transportation options, and services.

Response: One Scottsdale is located within a designated Growth and Activity Area. The mixed-use core of the Project is generally south of Legacy Boulevard. It is within this area of the Project (Planning Unit II) that the additional housing is proposed which in turn will be within walking distance of employment, transportation options, and services.

H 1.5 Encourage a variety of housing densities in context-appropriate locations throughout Scottsdale to accommodate projected population growth.

Response: One Scottsdale has many different residential projects built, under construction and planned. All have unique and differing qualities and characteristics and densities that are in context appropriate locations.

Goal H2 Provide a variety of housing options that meet the socioeconomic needs of people who live and work in Scottsdale.

H 2.7 Encourage the development of workforce housing with the new development and/or expansion of hotels, resorts, and other generators of service-level employment.

Response: The addition of additional housing options at varying densities and residence size will help accommodate the need for more attainable housing for teachers, first responders, health care workers, and others critical to our economy.

Goal H 3 Provide housing options that allow for all generations of Scottsdale residents to continue to live here, regardless of life stage or ability.

Response: Although One Scottsdale's housing options are not specifically geared to seniors, the amenities, walkable environment, services, and nearby medical facilities support the goal of allowing all generations to live within the community.

CIRCULATION ELEMENT

C 1.2 Coordinate transportation and land use planning to enhance an integrated, sustainable transportation system that promotes livable neighborhoods, economic vitality, safety, efficiency, mode choice, and adequate parking.

Response: One Scottsdale is ideally situated along major transportation corridors (Scottsdale Road and Loop 101 Freeway) and is planned for a live/work environment. This combination promotes livable neighborhoods, economic vitality, safety, efficiency, and mode choice that enhances parking availability.

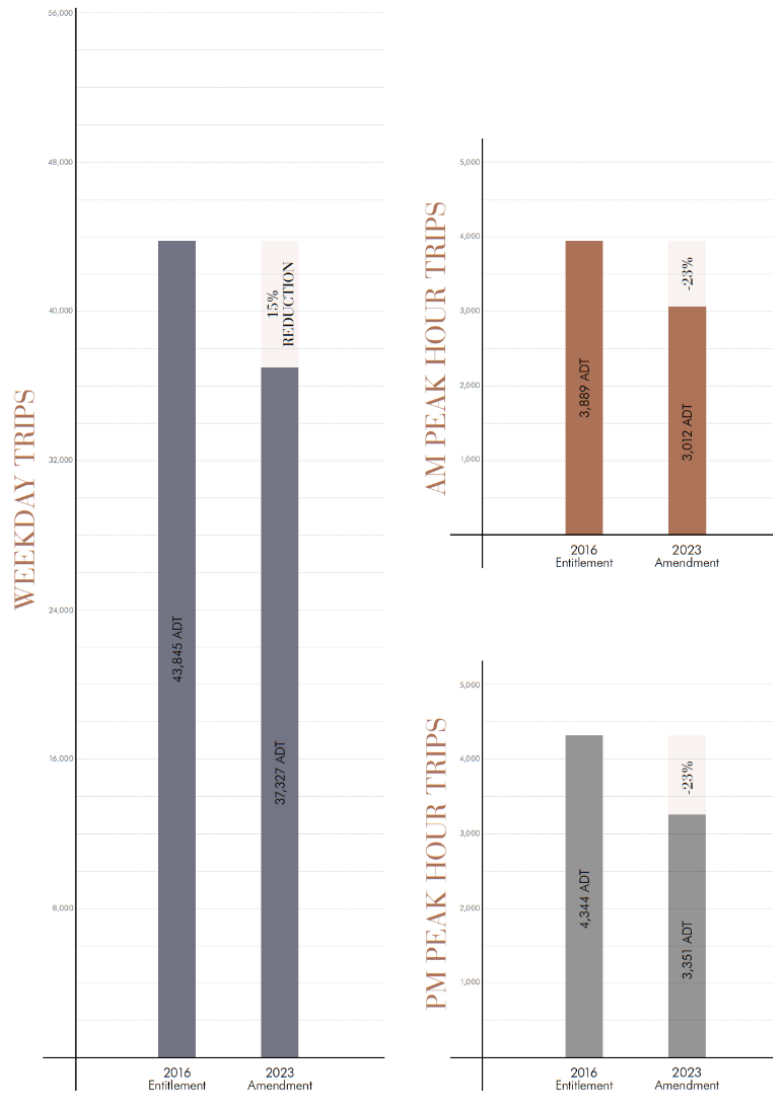
C 1.10 Control access to and from arterial streets and regional transportation corridors to protect their abilities to move multimodal traffic efficiently.

Response: One Scottsdale's access points were established with the Project's approval in 2002. A central street, Legacy Boulevard, was constructed in the early 2000's to provide an east/west connection from Scottsdale Road to Hayden Road. Internal streets within the Project allow for north/south traffic, excellent bicycle and pedestrian movement within the community is established as well. Finally, the Project has direct access to the freeway frontage road.

C 2.1 Encourage a mix of land uses that will reduce the distance and frequency of automobile trips and support mobility choices.

Response: One Scottsdale has always been planned for, and built with, a mix of land uses. The request for a reduction in non-residential square footage and additional residential provides for an approximate fifteen percent (15%) reduction in weekday trips and over twenty percent (20%) reduction in peak hour trips.

TRAFFIC



C 3.2 Create a diversity of mobility choices in Growth and Activity Areas, which have the greatest intensity of development.

Response: One Scottsdale utilizes numerous pedestrian and bicycle mobility options to and from and within the Project.

C 4.1 Provide and maintain expansion and modification options for existing and future transportation networks to efficiently serve future mobility needs.

Response: Although One Scottsdale constructed all of the required public infrastructure required by their 2002 entitlements, the developer will be constructing the west lanes of Scottsdale Road to improve traffic

flow. Additionally, in 2016, the developer was asked to provide interim street improvements on the west side of Scottsdale Road so that there were three (3) lanes of traffic across the Property frontage in both directions. Currently, Scottsdale Road transitions from three (3) lanes at the freeway to two (2) lanes in each direction. These improvements, planned for Spring of 2024, will provide and maintain expansion and modification options for existing and future transportation networks to efficiently serve future mobility needs.

C 4.5 Advance partnerships and privatization to provide additional choices for addressing gaps in the mobility system.

Response: In 2002, One Scottsdale agreed to financially participate in the construction of Miller Road to the east. Miller Road is approximately one-quarter (¼) mile east of One Scottsdale.

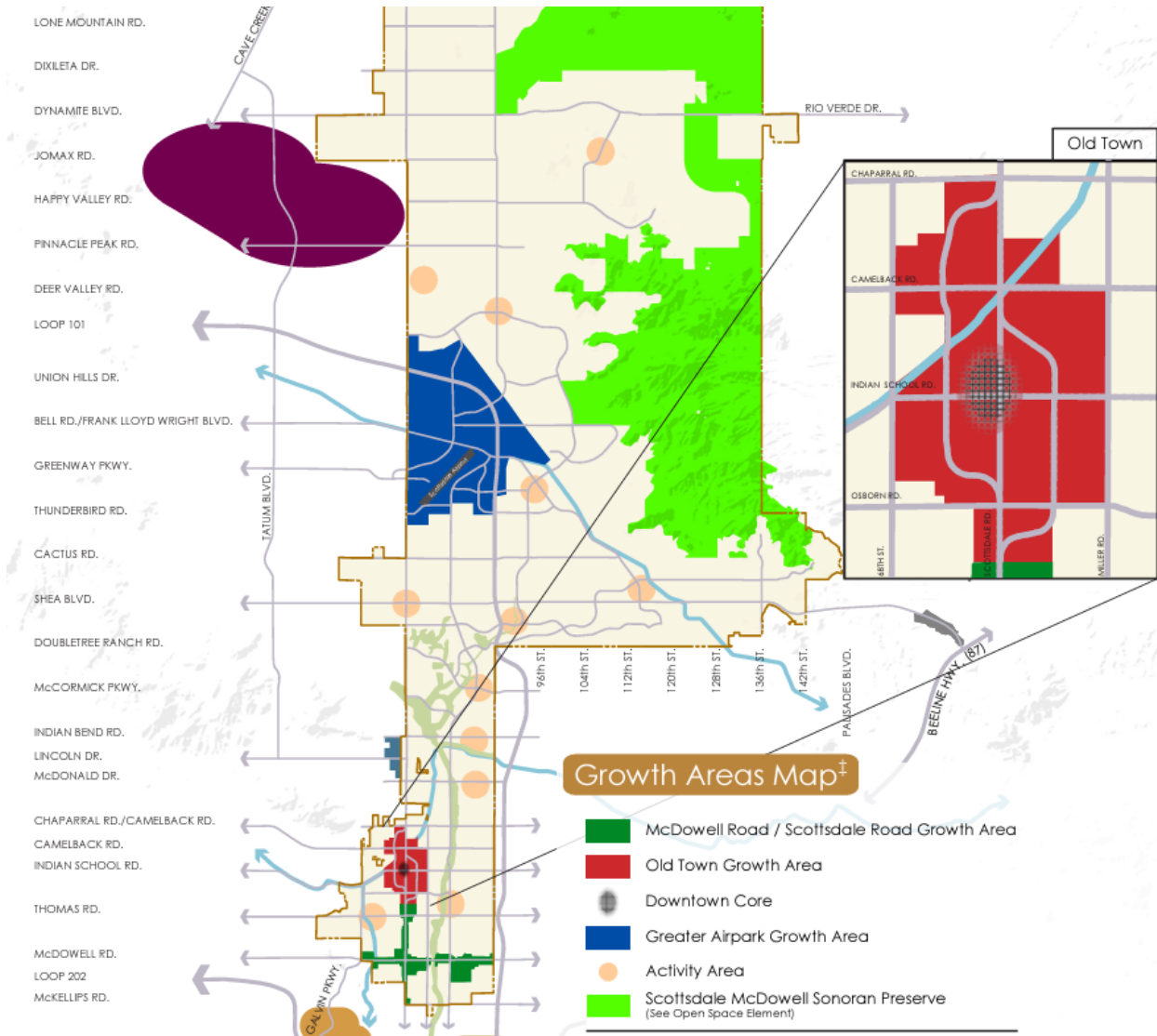
C 6.1 Coordinate regional transportation planning and implementation strategies in partnership with neighboring jurisdictions and regional, State, and Federal governmental agencies.

Response: One Scottsdale coordinated with the state department of transportation in constructing the north side freeway frontage road from Hayden Road on the east to Scottsdale Road. This connection demonstrated the developer's continuing commitment to coordinating and partnering with other jurisdictions for the betterment of the regional transportation system.

GROWTH AREAS

GA 1.4 Accommodate the highest intensity of development in designated Growth Areas. In some cases, Character Area Plans may be more specific on appropriate locations for higher intensity development within both Growth and Activity Areas.

Response: One Scottsdale is located in the Greater Airpark Growth Area. With higher intensity and density adjacent to One Scottsdale to the east (multi-family dwellings in Grayhawk and Crossroads East state land entitlements), the requested changes to the land use budget is an appropriate location for additional density and restructuring of non-residential square footage.



GA 1.5 Identify Growth and Activity Area “edges,” and incorporate context-appropriate transitions between these “edges” and adjacent neighborhoods to minimize the impacts of higher-intensity development.

GA 5.1 Support land use compatibility with nearby neighborhoods through context appropriate development within Growth and Activity Areas.

Response: One Scottsdale’s original 2002 entitlements, provide for height, density, and intensity transitions from the Grayhawk community north and east of the Project. The proposal maintains these already approved transitions. In addition, the majority of the eastern edge of Planning Unit II is allowed for building heights of up to ninety (90) feet. Current Development Review Board approvals and construction are only utilizing a maximum of sixty (60) feet in height for an even better transition to the Grayhawk community.

GA 3.1 Provide useable public open space as an integral part of Growth and Activity Areas to encourage public gathering, enhance aesthetics, preserve viewsheds, and serve as buffers between differing land uses and intensities.

Response: One Scottsdale is committed to a scenic corridor along its Scottsdale Road frontage. There are trails and paths that encircle the 134+-acre Project. Future public open space will be provided within Planning Unit II at full build-out.



COST OF DEVELOPMENT ELEMENT

COD 1.2 Public infrastructure provided by development should be reasonable, fair, and mutually beneficial to the City.

COD 2.1 Plan and promote the orderly building of infrastructure, such as water, sewer, drainage, streets, and transit shelters.

Response: One Scottsdale was originally approved in 2002. A few years later, Scottsdale Road and Legacy Boulevard were constructed at One Scottsdale's expense. These roadways and improvements have been in place for approximately twenty (20) years. Regional drainage was also constructed for the area by One Scottsdale in the early 2000's.

COD 2.4 Promote private-sector participation in the development of needed public facilities and amenities through required fees, dedication of land, and construction of facilities.

Response: One Scottsdale is committed to working with the City to provide needed facilities.

PUBLIC SERVICES & FACILITIES ELEMENT

PSF 2.3 Encourage the undergrounding of all new and existing electrical distribution lines carrying voltages of 69kV and lower.

Response: One Scottsdale had 69 KV power lines in front of the Project along the east side of Scottsdale Road. One of the initial public improvements was to underground that power line at a substantial cost to One Scottsdale. With the scenic corridor taking shape along portions of the Project's frontage, the undergrounding of the power lines has benefitted the aesthetics to the users of this roadway.

ECONOMIC VITALITY ELEMENT

EV 1.2 Support retention and expansion of established businesses, and provide resources for businesses to adapt to changing market conditions.

Response: The additional housing and their household spending power will assist local businesses.

EV 3.8 Promote orderly, planned growth to reduce service costs, maximize use of existing and proposed public facilities, and enhance available revenues.

Response: One Scottsdale can now be considered "infill" development with all of the recognized benefits of such development patterns on infrastructure.

PCD Findings

One Scottsdale is within a PCD zoning district with comparable PRC zoning. With the 2002 Entitlements, we provided justification and findings that allowed the PCD to be applied to the property. With the Request to update the development standards for One Scottsdale, we offer the following findings required by the Zoning Ordinance:

Before approval or modified approval of an application for a proposed P-C District, the Planning Commission and the City Council must find:

A. That the development proposed is in substantial harmony with the General Plan, and can be coordinated with existing and planned development of surrounding areas.

Response: As described fully above in the GACAP analysis and zoning update, the Request intends to fulfill the goals, policies and vision of the General Plan, the associated character area plan and utilize development standards present PCD-PRC zoning district. To the west, Phoenix has designated the area as a 'core' within their general plan. This means that proposals for underlying zoning districts in the future for this land may request building heights up to 190 feet and still be in conformance with their general

plan. The ASLD property to the east (Crossroads East within the City) is zoned for 60 feet in height and mixed-use land uses. The Cavasson project has building heights above 100 feet and significant office square footage. The Request seeks to 'right-size' the non-residential square footage and residential units south of Legacy Drive away from the Grayhawk community and consistent with future development within the ASLD properties. The request is in substantial harmony the General Plan and existing and future development in the surrounding areas.

B. That the streets and thoroughfares proposed are suitable and adequate to serve the proposed uses and the anticipated traffic which will be generated thereby.

Response: The 2002 and 2016 Entitlements provided for significant regional and local transportation infrastructure improvements. The required roadway widening (Scottsdale Road), new roadways (Legacy Boulevard from Scottsdale Road to Hayden Road and the freeway frontage road from the Hayden Road interchange to the Scottsdale Road interchange), traffic signals, and internal roadways have all been developed to handle the proposed traffic for the Request. The 2002 Entitlements also require assistance in funding the study on how Miller Road is built and developed across the freeway corridor. In addition, the proposed employment and residential use mix for the Request provides for more internal capture thereby reducing overall daily trips. The forethought and implementation of the required transportation infrastructure provides for streets and thoroughfares that are suitable to handle the anticipated traffic by the Request. Finally, in the late Spring of 2024, One Scottsdale will widen Scottsdale Road along the entire Property's frontage for 3-lanes of travel in each direction.

C. The Planning Commission and City Council shall further find that the facts submitted with the application and presented at the hearing establish beyond reasonable doubt that:

1. In the case of proposed residential development, that such development will constitute a residential environment of sustained desirability and stability; that it will be in harmony with the character of the surrounding area; and that the sites proposed for public facilities, such as schools, playgrounds and parks, are adequate to serve the anticipated population. The Planning Commission and City Council shall be presented written acknowledgment of this from the appropriate school district, the Scottsdale Parks and Recreation Commission and any other responsible agency.

The Request seeks to add 500 residential units to the core of the project south of Legacy Boulevard. The additional residential units are to create a core of housing units to support the proposed employment core south of Legacy Boulevard. The scale and density of the existing residential units north of Legacy Boulevard provide the required buffer from height and are in harmony with adjacent residential communities in Grayhawk. The existing and proposed infrastructure will be able to handle the additional residential units. The anticipated urban environment will include sidewalks, plazas, gathering places, and social interaction. One Scottsdale will have a looped trail system along its perimeter with access to other surrounding areas. Nearby parks, schools and other facilities are available to the north and east. Internal pocket parks and amenities will also be provided. We have received approval by the superintendent of the Paradise Valley Unified School District that our Request will not impact the existing and future school enrollment.

2. In the case of proposed industrial or research uses, that such development will be appropriate in area, location and overall planning to the purpose intended; and that the design and development standards are such as to create an industrial environment of sustained desirability and stability.

The Request may attract a research type user or an office user with a research component. Henkel is one such use that provides for an office headquarters with an associated research facility in one building. Any research uses will be designed in the core area south of Legacy Boulevard and be designed to operate in harmony with the other planned mixture of uses within One Scottsdale

3. In the case of proposed commercial, educational, cultural, recreational and other nonresidential uses, that such development will be appropriate in area, location and overall planning to the purpose intended; and that such development will be in harmony with the character of the surrounding areas.

As stated throughout this project narrative, the intent of the Request is to create an urban, pedestrian friendly core of residential, employment and support commercial retail and restaurant uses south of Legacy Drive. With the development of Scottsdale 101, Promenade, Scottsdale Quarter, Kierland, Citynorth and other commercial centers in this area of the City, One Scottsdale is no longer planned as a major retail destination. The Request seeks to ‘right-size’ the non-residential square footage for the ability to attract international, national, regional and local headquarters who seek to locate in a dynamic urban mixed-use environment as well as a retail and restaurant core. With the planned intense and dense land uses on adjacent ASLD properties in Phoenix and Scottsdale, the proposed non-residential square footage will be in harmony with the character of the surrounding areas.

Neighborhood Outreach

As with our 2002 and 2016 Entitlements, we continue to strive to ensure all affected stakeholders are made aware of our proposed Request. Prior to our official submittal, we reached out to the Grayhawk Community Association (“Grayhawk Board”) to preview our request to amend our development plan. From that meeting, we coordinated with the Grayhawk Board, a Grayhawk only neighborhood outreach meeting at the Grayhawk Board offices. The Grayhawk Board sent notices to approximately 3,800 residences within Grayhawk. This meeting was conducted on November 15th, 2023 in the evening. There were approximately 25 attendees at this open house. On November 29th, 2023, we also conducted the City required neighborhood open house at the Grayhawk Boys & Girls Club. Again, there were approximately 25-30 attendees at this open house. Post submittal, our outreach will include updates to the Grayhawk Board, adjacent property owners including Discount Tire, Stockdale – the owner of the Illume building, Honor Health, the Vi, ASLD, Paradise Valley Unified School District, Coalition of Greater Scottsdale (“COG’s”) and many others. Please refer to the Citizen Involvement Plan and Report submitted with this application.

Summary



The Request is to update One Scottsdale's existing PRC zoning district to substantially reduce the intensity of One Scottsdale by approximately 1.3M square feet of non-residential intensity and increase the amounts of housing by 500 residences. These residences can only be developed in PU II. The intent of the Request is to remove overall intensity while at the same time reducing impacts to the City's infrastructure including traffic, water use and sewer use. The changes continue to be consistent with and implement the City's current General Plan and Character Area Plan goals, policies and vision. In doing so, additional housing and significantly less non-residential square footage will provide for development at one of the most important intersection in the City. The proposed intensity will still create a mixed core.

The modifications to increase residential and decrease non-residential square footage will be reflected in a revised Budget. Refer to the attached revised land use budget within this application.

The Request will create an economically sound development plan that implements the General Plan and the GACAP goals, policies and vision for this area of Scottsdale. We respectfully request the City's approval of the Request.

REQUEST

DISCOUNT TIRE HQ

HONOR HEALTH

THOMPSON PEAK PKWY

OFFICE

RESIDENTIAL

COMMERCIAL/
OFFICE

HOTEL

RESIDENTIAL

RETAIL/
OFFICE

COMMERCIAL/
OFFICE

RESIDENTIAL

RETAIL/
OFFICE

COMMERCIAL/
OFFICE

LEGACY BLVD

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OFFICE/
RESIDENTIAL/
HOTEL

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LOOP 101



PROPOSED AMENDMENT TO THE EXISTING LAND USE ENTITLEMENTS

- Remove approximately 1,000,000 non-residential square feet from PU-II and PU-III
- Add 500 residences in PU-II

ONE PLAZA

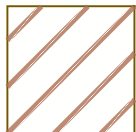


ONE PLAZA



PEDESTRIAN CIRCULATION



-  MIXED USE CORE
-  5' WIDE PATH
-  6' WIDE PATH
-  8' WIDE PATH

*SHADED WALKWAYS AND SEATING AMENITIES DETERMINED WITH IMPROVEMENT PLANS



One Scottsdale

Update to Case No. 20-ZN-2002#3 Traffic Impact and Mitigation Analysis

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Project Number: 22.5355
December 8, 2023



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1. INTRODUCTION AND EXECUTIVE SUMMARY

1.1. PURPOSE OF REPORT AND STUDY OBJECTIVES

Lōkahi, LLC (Lōkahi) was retained by DMB Associates, Inc. to complete an update to the Traffic Impact and Mitigation Analysis (TI&MA) completed for the One Scottsdale development (Case No. 20-ZN-2002#3) dated May 27, 2016, and approved June 21, 2016. The TI&MA update will be prepared for submittal to the City of Scottsdale and the Arizona Department of Transportation (ADOT). It has been coordinated with the City that the analysis does not need to extend beyond the site boundaries.

Planning Unit (PU) II and III of the proposed One Scottsdale development are located on the northeast corner of State Route 101 Loop (SR 101L/Loop 101) and Scottsdale Road and on the northeast corner of Legacy Boulevard and Scottsdale Road, respectively. See **Figure 1** for the vicinity map.

The objective of this TI&MA is to update traffic volume projections based on current standards and data collection to ultimately analyze the traffic related impacts of the proposed development to the adjacent roadway network.

This Traffic Impact and Mitigation Analysis includes:

- Level of service analysis of existing conditions for the weekday AM and PM peak hours
- Trip generation for the proposed development
- Trip generation comparison for the previously approved vs. proposed development
- Level of service analysis for the build-out year (2028) weekday AM and PM peak hours
- Traffic signal warrant

1.2. EXECUTIVE SUMMARY

A Traffic Impact and Mitigation Analysis (TI&MA), dated May 27, 2016, was completed for the One Scottsdale development (Case No. 20-ZN-2002#3) and was approved June 21, 2016. This report serves as an update to the previously approved TI&MA. Planning Unit (PU) II and III of the One Scottsdale development are evaluated in this report. PU II is located on the northeast corner of Loop 101 and Scottsdale Road and PU III on the northeast corner of Legacy Boulevard and Scottsdale Road in Scottsdale, Arizona. For the purpose of the TI&MA, the build-out year of One Scottsdale is assumed to occur in the year 2028 and to consist of the following land uses and units:



PLANNING UNIT II

	PROPOSED	(EXISTING)
• Retail	42,500 square feet	-
• Office	749,844 square feet	(325,156 square feet)
• Restaurant	102,500 square feet	-
• Hotel	270 rooms	-
• Multifamily Residential	1,750 dwelling units	-

PLANNING UNIT III

	PROPOSED	(EXISTING)
• Retail	38,000 square feet	-
• Office	223,000 square feet	-
• Restaurant	13,000 square feet	-
• Hotel	-	(130 rooms)
• Multifamily Residential	-	(750 dwelling units)

Trip Generation

The trip generation for the proposed development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 11th Edition* and *NCHRP Report 684 – Enhancing Internal Trip Capture Estimation of Mixed-Use Developments*.

The existing land uses are removed from the total trip generation considered in the analysis as they are assumed to be accounted for with the existing traffic count data.

The proposed One Scottsdale development is anticipated to generate the following new trips:

Trip Generation – Proposed One Scottsdale

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Proposed One Scottsdale	29,986	2,338	1,533	805	2,666	1,003	1,663

To quantify the trip generation difference between the previously proposed One Scottsdale development and the proposed One Scottsdale development, the former trip generation is modified to take into consideration the changes in the proposed site. This includes the build-out of the hotel in PU III, which did not exist in 2016. Therefore, the trip generation for a 130-room hotel was removed from the former One Scottsdale development trip generation calculation. The previously proposed One Scottsdale development was anticipated to generate the following new trips:



Trip Generation – Previously Proposed One Scottsdale – Modified

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Previously Proposed One Scottsdale	30,547	3,911	2,754	1,157	3,909	1,288	2,621

The following table shows the trip generation comparison between the previously proposed and proposed One Scottsdale development.

Trip Generation – Comparison

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Previously Proposed One Scottsdale	30,547	3,911	2,754	1,157	3,909	1,288	2,621
Proposed One Scottsdale	29,986	2,338	1,533	805	2,666	1,003	1,663
Difference	-561	-1,573	-1,221	-352	-1,243	-285	-958

The overall weekday, AM and PM peak hour trips of the proposed One Scottsdale development are **2%, 40%, and 32% less** than the previously proposed One Scottsdale development approved in 2016.

Therefore, the proposed One Scottsdale development will have less impact to the adjacent roadway network during the average weekday than the previously approved One Scottsdale development.

This report presents the existing and build-out year, assumed in the year 2028, capacity analyses for the AM and PM peak hours for the following intersections:

EXISTING INTERSECTIONS

- Scottsdale Road and Thompson Peak Parkway (1)
- Scottsdale Road and Driveway A (2)
- Scottsdale Road and Driveway B (3)
- Scottsdale Road and Driveway C (4)
- Scottsdale Road and Legacy Boulevard (5)
- Scottsdale Road and Henkel Way (6)
- Loop 101 WB Ramps (7)
- Loop 101 EB Ramps (8)
- Thompson Peak Parkway and 73rd Street (9)
- Legacy Boulevard and 73rd Street (10)
- Legacy Boulevard and Driveway D (11)



- Loop 101 Frontage Road and Henkel Way (12)

PROPOSED INTERSECTIONS

- Scottsdale Road and Driveway F (13)
- Scottsdale Road and Driveway G (14)
- Scottsdale Road and Driveway H (15)
- Legacy Boulevard and Driveway E (16)
- Legacy Boulevard and Driveway I (17)

Recommendations

The following are the recommendations with the build-out of the proposed One Scottsdale:

Scottsdale Road and Henkel Way (6)

- Improve southbound signal head to include permitted – protected left turn phasing

Legacy Boulevard and 73rd Street (10)

- Modify striping to include a through lane on the north and south approaches
- Although a traffic signal is warranted, the signal control is not incorporated in the build capacity analysis as acceptable levels of service are achieved in the AM peak hour and adequate storage is provided for the queued vehicles in the PM peak hour. It is recommended that additional traffic signal warrant analyses be conducted in the future as surrounding development progresses and forecasted traffic volumes are realized to determine the appropriate timing for signal control.

Scottsdale Road and Driveway F (13)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane

Scottsdale Road and Driveway G (14)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane

Scottsdale Road and Driveway H (15)

- Construct a one-way stop-controlled driveway, which allows for right-in/right-out/left-in movements
- Install westbound right turn lane

Legacy Boulevard and Driveway E (16)

- Construct a two-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane



Legacy Boulevard and Driveway I (17)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane



2. PROPOSED DEVELOPMENT

The proposed One Scottsdale development is located in North Scottsdale, Arizona and is comprised of two planning units. Planning Unit II is bound by Legacy Boulevard to the north, Loop 101 to the south, Scottsdale Road to the west, and Scottsdale Healthcare Drive to the east. Planning Unit III is bound by Thompson Peak Parkway to the north, Legacy Boulevard to the south, Scottsdale Road to the west, and 73rd Street to the east. See **Figure 1** for a vicinity map.

For the purpose of the TIMA, the build-out year of One Scottsdale is assumed to occur in the year 2028 and to consist of the following land uses and units:

PLANNING UNIT II	PROPOSED	(EXISTING)
• Retail	42,500 square feet	-
• Office	749,844 square feet	(325,156 square feet)
• Restaurant	102,500 square feet	-
• Hotel	270 rooms	-
• Multifamily Residential	1,750 dwelling units	-
PLANNING UNIT III	PROPOSED	(EXISTING)
• Retail	38,000 square feet	-
• Office	223,000 square feet	-
• Restaurant	13,000 square feet	-
• Hotel	-	(130 rooms)
• Multifamily Residential	-	(750 dwelling units)

See **Figure 2**, **Figure 3**, and **Appendix A** for the proposed One Scottsdale Planning Unit II and III site plans.

2.1. MASTER STREET CIRCULATION

The Master Street Circulation Plan is represented in the site plans (**Figure 2** and **Figure 3**) as well as **Figure 11**, which includes the existing and potential future private roadway network within Planning Unit II and III, as well as the existing regional and local roadway network adjacent to the One Scottsdale development. There are five proposed and eight (8) existing site access points to the One Scottsdale development evaluated in this study; seven are located along Scottsdale Road, one along Thompson Peak Parkway, four along Legacy Boulevard, and one along the Loop 101 Frontage Road.

EXISTING SITE ACCESS

Scottsdale Road and Driveway A (2) is one-way stop-controlled and allows for right-in, right-out movements.



Scottsdale Road and Driveway B (3) is one-way stop-controlled and allows for right-in, right-out, and left-in movements.

Scottsdale Road and Driveway C (4) is one-way stop-controlled and allows for right-in, right-out movements.

Scottsdale Road and Henkel Way (5) is signal controlled and allows for full access movements.

Thompson Peak Parkway and 73rd Street (9) is two-way stop-controlled and allows for right-in, right-out movements. With the build-out of the proposed One Scottsdale development, this driveway will allow for left-in movements.

Legacy Boulevard and 73rd Street (10) is currently two-way stop-controlled and allows for full access movements. Legacy Boulevard and 73rd Street has been previously approved by the City as a potential signal location.

Legacy Boulevard and Driveway D (11) is currently one-way stop-controlled and allows for full access movements. Legacy Boulevard and Driveway D has been previously approved by the City as a potential signal location.

Loop 101 Frontage Road and Henkel Way (12) is one-way stop-controlled and allows for right-in, right-out movements.

PROPOSED SITE ACCESS

Scottsdale Road and Driveway F (13) will be one-way stop-controlled and allow for right-in, right-out movements.

Scottsdale Road and Driveway G (14) will be one-way stop-controlled and allow for right-in, right-out movements.

Scottsdale Road and Driveway H (15) will be one-way stop-controlled and allow for right-in, right-out, and left-in movements.

Legacy Boulevard and Driveway E (16) will be two-way stop-controlled and allow for right-in, right-out movements from the north and south sides of Legacy Boulevard.

Legacy Boulevard and Driveway I (17) will be one-way stop-controlled and allow for right-in, right-out movements.



FIGURE 1 | VICINITY MAP



FIGURE 2 | ONE SCOTTSDALE PU II SITE PLAN



FIGURE 3 | ONE SCOTTSDALE PU III SITE PLAN

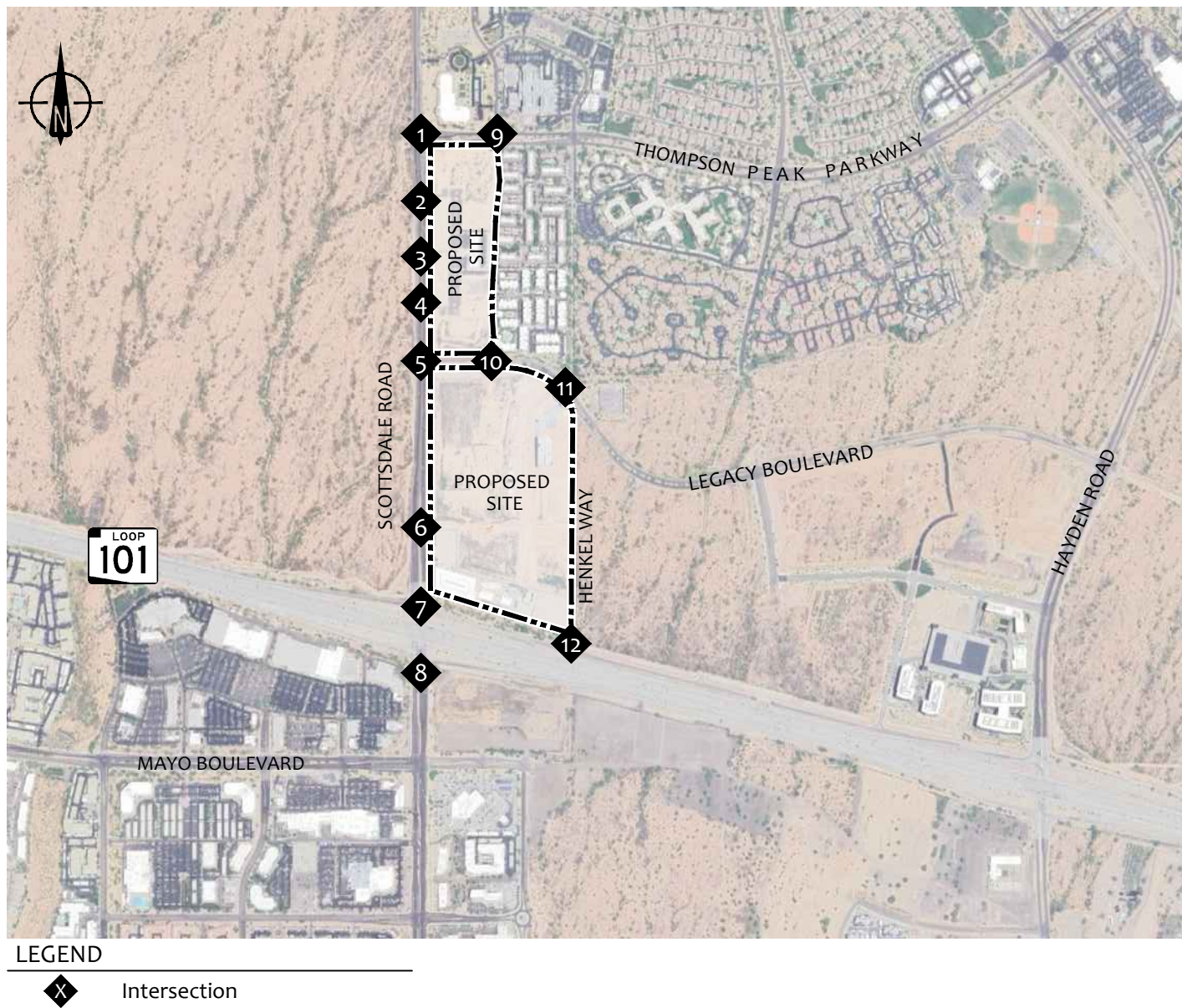


FIGURE 4 | STUDY AREA



3. AREA CONDITIONS

The study area is located in North Scottsdale, Arizona. **Sections 3.1** and **3.2** provide detailed descriptions of the existing study roadway segments and intersections. See **Figure 4** for the Master Circulation Plan which includes the study area.

3.1. STUDY ROADWAY SEGMENTS

The existing roadway segments within the study area include Scottsdale Road, 73rd Street, Thompson Peak Parkway, Legacy Boulevard, and Loop 101. It has been coordinated with the City that the analysis does not need to extend beyond the site boundaries as the trip generation is less than previously approved.

Scottsdale Road is a north-south roadway that provides three (3) through lanes in each direction of travel, divided with a raised median, directly north and south of Henkel Way and two (2) through lanes in each direction, divided with a two-way left-turn lane (TWLTL), north of Henkel Way. According to the City Scottsdale *Functional Classification Map*, Scottsdale Road is classified as a Major Arterial, south of Happy Valley Road. All Traffic Data Services, LLC collected traffic counts along Scottsdale Road, on Wednesday, October 18, 2023. The recorded counts indicate an average daily traffic (ADT) of 43,363 vehicles per day (vpd) and 44,280 vpd, along Scottsdale Road, north of Loop 101 and north of Legacy Boulevard, respectively. There is a posted speed limit of 45 miles per hour (mph).

73rd Street is a north-south roadway that provides one (1) through lane in each direction of travel, with on-street parking on the east side of the roadway, between Legacy Boulevard and Thompson Peak Parkway. All Traffic Data Services, LLC collected traffic counts along 73rd Street, north of Legacy Boulevard, on Wednesday, October 18, 2023. The recorded counts indicate an ADT of 2,062 vpd.

Thompson Peak Parkway is an east-west roadway, within the study area, that provides two (2) through lanes in each direction of travel, divided with a raised median. Thompson Peak Parkway begins at Scottsdale Road and continues east. According to the City Scottsdale *Functional Classification Map*, Thompson Peak Parkway is classified as a Minor Arterial. All Traffic Data Services, LLC collected traffic counts along Thompson Peak Parkway, east of Scottsdale Road, on Wednesday, October 18, 2023. The recorded counts indicate an ADT of 13,497 vpd. There is a posted speed limit of 45 mph.

Legacy Boulevard is an east-west roadway, that provides two (2) through lanes in each direction of travel, divided with a raised median. Legacy Boulevard begins at Scottsdale Road and continues east to Hayden Road, where the alignment currently ends. According to the City Scottsdale *Functional Classification Map*, Legacy Boulevard is classified as a Minor Arterial. All Traffic Data Services, LLC collected traffic counts along Legacy Boulevard, east of Scottsdale Road, on



Wednesday, October 18, 2023. The recorded counts indicate an ADT of 2,206 vpd. There is a posted speed limit of 30 mph.

The **Pima Freeway** segment of **State Route 101L (Loop 101)** is an east-west freeway with access to the site via traffic interchanges at Scottsdale Road and Hayden Boulevard. A westbound frontage road extends from the westbound on ramp at Hayden Road to the westbound off ramp at Scottsdale Road. The Loop 101 mainline provides four (4) through lanes and a High Occupancy Vehicle (HOV) lane for each direction of travel, within the vicinity of the study area.

3.2. STUDY INTERSECTIONS

Scottsdale Road and Thompson Peak Parkway (1) operates as a signalized T-intersection. The northbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The southbound approach provides one (1) dedicated left turn lane and two (2) through lanes. The westbound approach provides two (2) dedicated left turn lanes and one (1) dedicated right turn lane.

Scottsdale Road and Driveway A (2) operates as a one-way stop-controlled T-intersection. The northbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The southbound approach provides two (2) through lanes. The westbound approach provides one (1) dedicated right turn lane.

Scottsdale Road and Driveway B (3) operates as a one-way stop-controlled T-intersection. The northbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The southbound approach provides one (1) dedicated right turn lane and two (2) through lanes. The westbound approach provides one (1) dedicated right turn lane.

Scottsdale Road and Driveway C (4) operates as a one-way stop-controlled T-intersection. The northbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The southbound approach provides two (2) through lanes. The westbound approach provides one (1) dedicated right turn lane.

Scottsdale Road and Legacy Boulevard (5) operates as a signalized T-intersection. The northbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The southbound approach provides one (1) dedicated left turn lane and two (2) through lanes. The westbound approach provides two (2) dedicated left turn lanes and one (1) dedicated right turn lane.

Scottsdale Road and Henkel Way (6) operates as a signalized T-intersection. The northbound approach provides three (3) through lanes and one (1) dedicated right turn lane. The southbound approach provides one (1) dedicated left turn lane and three (3) through



lanes. The westbound approach provides two (2) dedicated left turn lanes and one (1) dedicated right turn lane.

Scottsdale Road and Loop 101 WB Ramps (7) operates as a clustered signalized intersection as a part of the Loop 101 and Scottsdale Road traffic interchange. The northbound approach provides two (2) dedicated left turn lanes and three (3) through lanes. The southbound approach provides two (2) left turn trap lanes, three (3) through lanes, and one (1) dedicated right turn lane. The westbound approach provides two (2) dedicated left turn lanes, one (1) shared through-right turn lane, and one (1) dedicated right turn lane.

Scottsdale Road and Loop 101 EB Ramps (8) operates as a clustered signalized intersection as a part of the Loop 101 and Scottsdale Road traffic interchange. The northbound approach provides two (2) left turn trap lanes, three (3) through lanes, and one (1) dedicated right turn lane. The southbound approach provides two (2) dedicated left turn lanes and three (3) through lanes. The eastbound approach provides two (2) dedicated left turn lanes, one (1) shared through-right turn lane, and one (1) dedicated right turn lane.

Thompson Peak Parkway and 73rd Street (9) operates as a two-way stop-controlled intersection. The northbound and southbound approaches each provide one (1) dedicated right turn lane. The eastbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) dedicated right turn lane. The westbound approach provides two (2) through lanes and one (1) dedicated right turn lane.

Legacy Boulevard and 73rd Street (10) operates as a one-way stop-controlled T-intersection. The southbound approach provides one (1) dedicated left turn lane and one (1) dedicated right turn lane. The eastbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) dedicated right turn lane. The westbound approach provides one (1) dedicated left turn lane, one (1) through lane and one (1) shared through-right turn lane. The northbound approach provides approximately 40 feet of pavement in length and 50 feet of pavement in width and is not currently operational.

Legacy Boulevard and Driveway D (11) operates as a one-way stop-controlled intersection. The northbound approach provides one (1) dedicated left turn lane and one (1) dedicated right turn lane. The eastbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The westbound approach provides one (1) dedicated left turn lane and two (2) through lanes.

Loop 101 WB Frontage Road and Henkel Way (12) operates as a one-way stop-controlled intersection. The southbound approach provides one (1) dedicated right turn lane. The westbound approach provides one (1) through lane and one (1) dedicated right turn lane.



3.3. COLLISION RATES

The City of Scottsdale's 2022 *Traffic Volume & Collision Report* provides traffic volume and collision information for the City of Scottsdale on arterial and collector roadway segments and major intersections within the city. Segment collisions are defined as collisions that occur on major streets more than 100 feet from the segment's termini intersections, including those that occur at minor intersections within the segment. Intersection collisions are defined as collisions that occur at or within 100 feet of the intersection.

The collision rates and city-wide rankings, sorted by descending collision rate, for the study roadway segments and intersections are shown in **Table 1** and **Table 2**, respectively.

Table 1 – Segment Collision Rates

Segment	From	To	Collision Rate	Rank
Scottsdale Road	101 Freeway	Thompson Peak Parkway	0.97	150
2022 City of Scottsdale Average			1.17	

Table 2 – Intersection Collision Rates

Intersection	Collision Rate	Rank
Scottsdale Road and Thompson Peak Parkway	0.28	149
Scottsdale Road and 101 Freeway	1.49	5
2022 City of Scottsdale Average	0.51	

3.4. STUDY AREA LAND USE

The study area includes a mix of land uses, but primarily consists of vacant and residential land uses. Arizona State Land Department (ASLD) State Trust Land is located west of PU III and east of PU II. Medical, office, lodging, retail, and restaurant land uses are located within the study area.

3.5. SITE ACCESSIBILITY

Roadway System

The project is accessible via Scottsdale Road, Thompson Peak Parkway, Legacy Boulevard, the Loop 101 WB Frontage Road, and 73rd Street. Regional accessibility is provided via Scottsdale Road and Loop 101. The Pima Freeway (Loop 101) extends east of the Interstate 17 (I-17) traffic interchange (TI), in north Phoenix, to Pima Road, where it transitions south, and ends at the Loop 202 TI, in south Scottsdale. Loop 101 is a major transportation corridor, located adjacent to the southern border of the site. The surrounding transportation system includes the typical "grid" roadway



network common to the Phoenix metropolitan area with arterial roadways running north-south and east-west at one-mile intervals. However, within the vicinity of the site there are currently limited roadways which provide continuous east-west and north-south connectivity.

Pedestrian and Bicycle Facilities

On-street bicycle lanes currently exist along both sides of Legacy Boulevard and Thompson Peak Parkway. A paved multi-use path currently exists along the east side of Scottsdale Road and north side of the Loop 101 westbound off-ramp. Sidewalks are generally provided along the study roadway segments adjacent to the frontage of developed parcels.

Transit Facilities

Valley Metro Route 72 – Scottsdale Road/Rural Road operates within the study area and provides stops at Scottsdale Road and Pima Freeway, Thompson Peak Parkway and Scottsdale Healthcare Drive, and Scottsdale Healthcare Drive and 73rd Street.



4. EXISTING CONDITIONS

4.1. EXISTING LAND USE

The existing land uses within the One Scottsdale site include residential, lodging, and office land, although the majority of the existing land is vacant. The proposed development is zones for Planned Regional Center (PRC).

4.2. EXISTING TRAFFIC COUNTS

A local data collection firm, All Traffic Data Services, LLC, was utilized to collect traffic counts. On Wednesday, October 18, 2023, 4 hours of typical weekday turning movement counts were obtained during the AM (7:00 to 9:00 am) and PM (4:00 to 6:00 pm) peak hours at the following intersections:

- Scottsdale Road and Thompson Peak Parkway (1)
- Scottsdale Road and Driveway A (2)
- Scottsdale Road and Driveway B (3)
- Scottsdale Road and Driveway C (4)
- Scottsdale Road and Legacy Boulevard (5)
- Scottsdale Road and Henkel Way (6)
- Loop 101 WB Ramps (7)
- Loop 101 EB Ramps (8)
- Thompson Peak Parkway and 73rd Street (9)
- Legacy Boulevard and 73rd Street (10)
- Legacy Boulevard and Driveway D (11)
- Loop 101 Frontage Road and Henkel Way (12)

The turning movement counts were then analyzed for the highest 1-hour within each time period. The following peak hours were analyzed throughout this study.

AM Peak Hour	7:15 am – 8:15 am
PM Peak Hour	4:30 pm – 5:30 pm

On Wednesday, October 18, 2023, weekday bi-directional tube counts for 24-hours in 15-minute intervals were collected along the following roadway segments:

- Scottsdale Road, north of Legacy Boulevard
- Scottsdale Road, north of Loop 101
- Thompson Peak Parkway, east of Scottsdale Road
- Legacy Boulevard, east of Scottsdale Road
- 73rd Street, north of Legacy Boulevard



- Henkel Way, north of Loop 101 WB Frontage Road

The City of Scottsdale seasonal adjustment factors, as shown on the *2020 Average Daily Intersection and Segment Traffic Volumes* maps, were used to adjust the existing traffic counts based on the month the counts were taken. The existing traffic counts were divided by the North Scottsdale monthly adjustment factor for October, resulting in increased traffic volumes.

See **Figure 5** for the existing adjusted weekday, AM and PM peak hour traffic volumes. See **Appendix C** for detailed raw traffic count data.

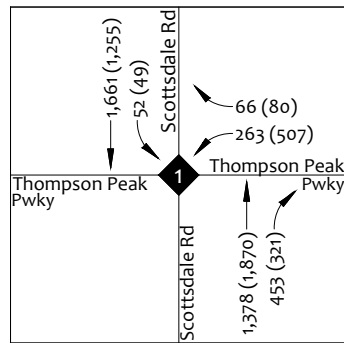
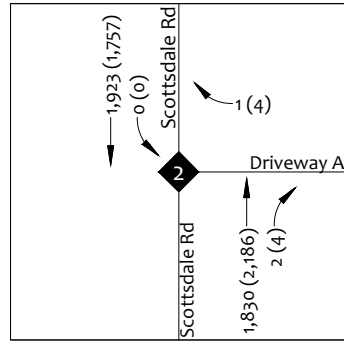
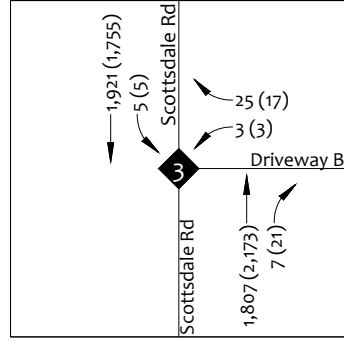
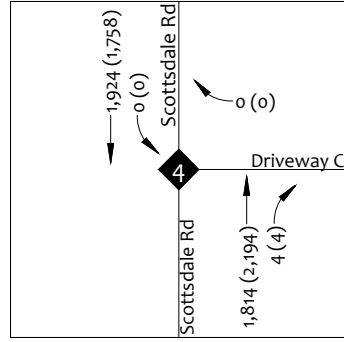
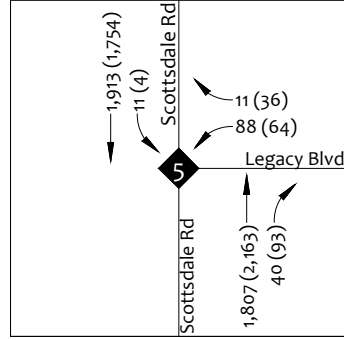
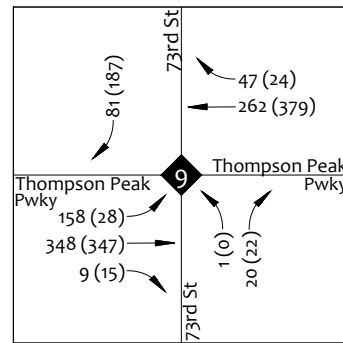
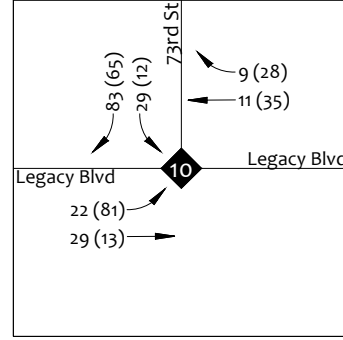
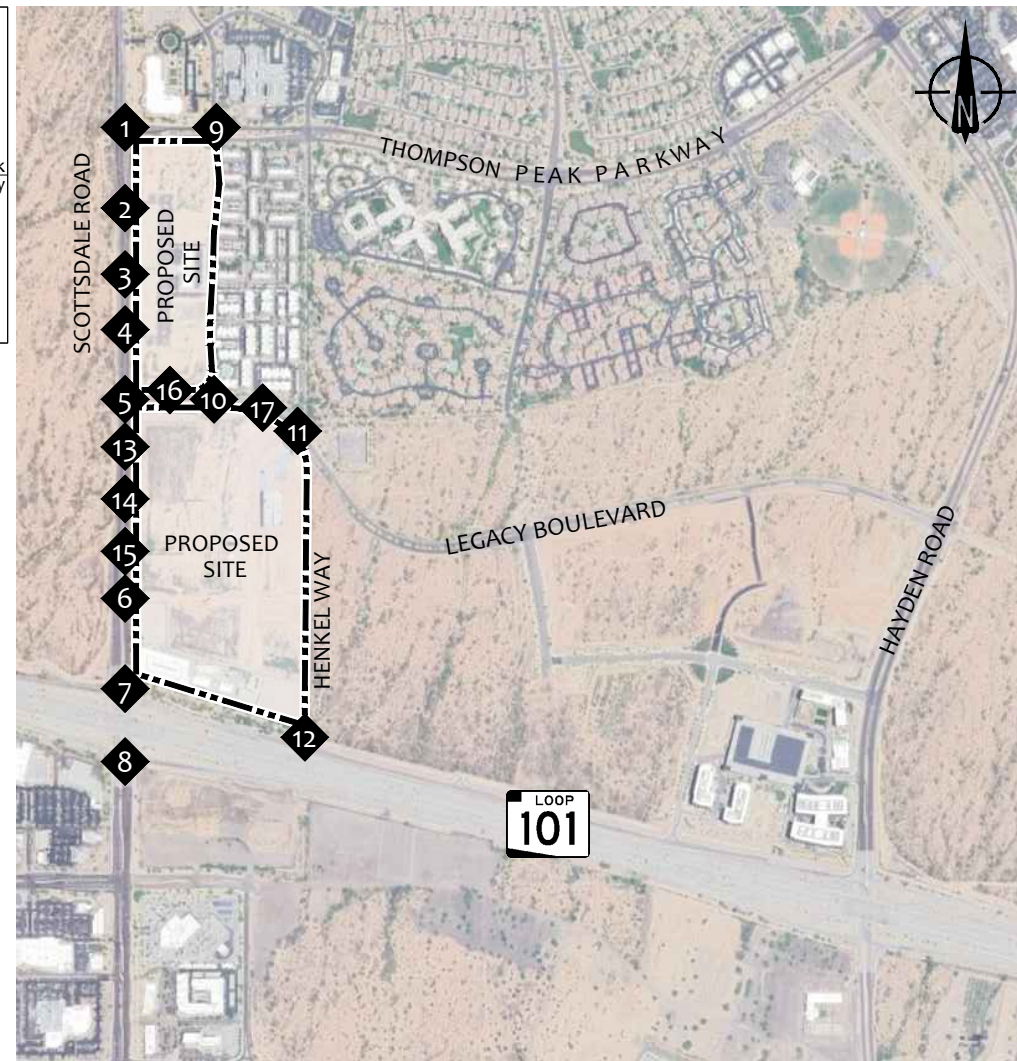
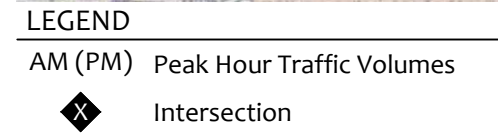
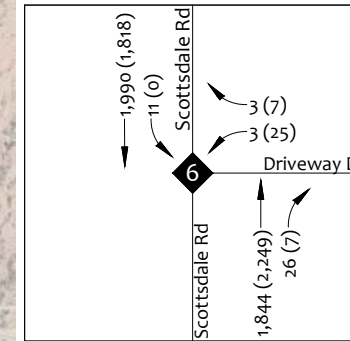
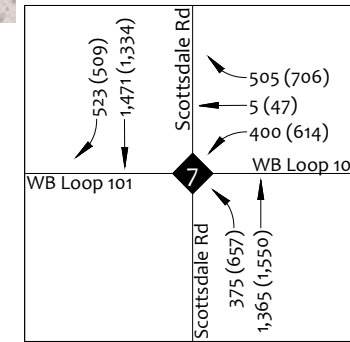
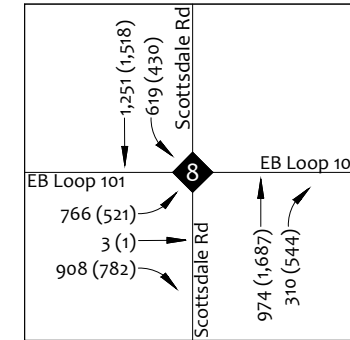
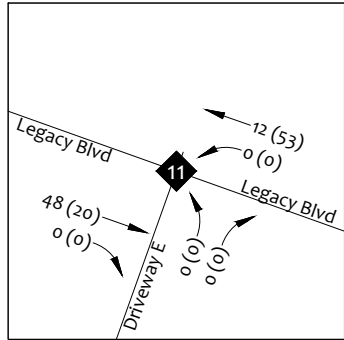
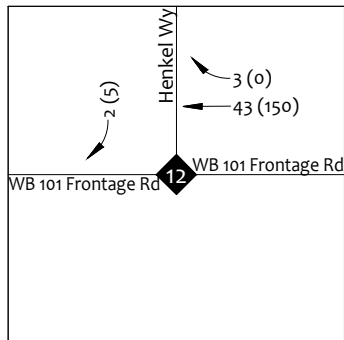


FIGURE 5 | EXISTING TRAFFIC VOLUMES



4.3.EXISTING CAPACITY ANALYSIS

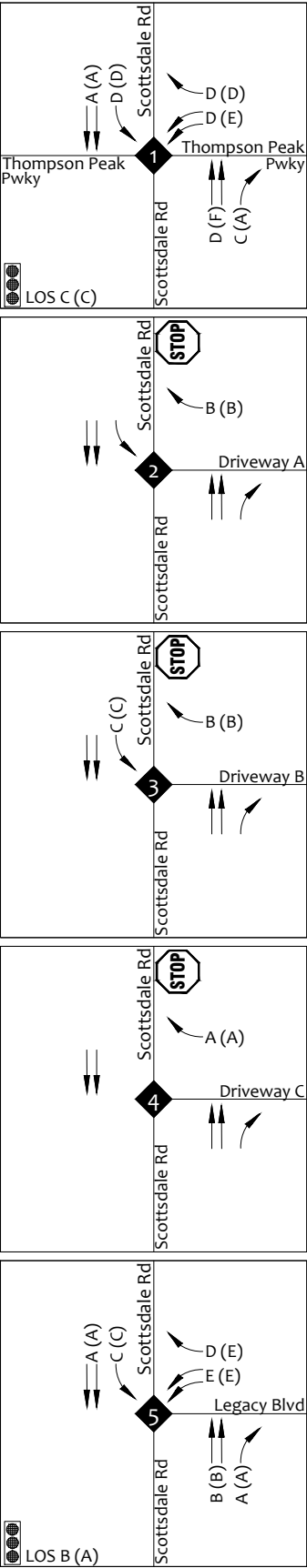
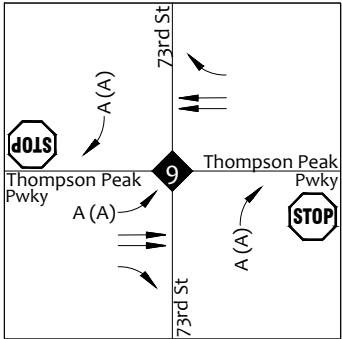
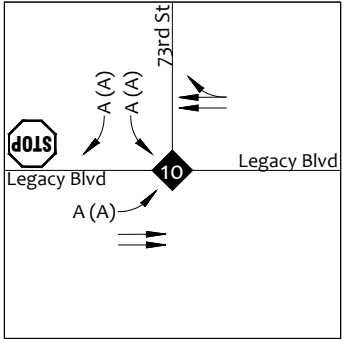
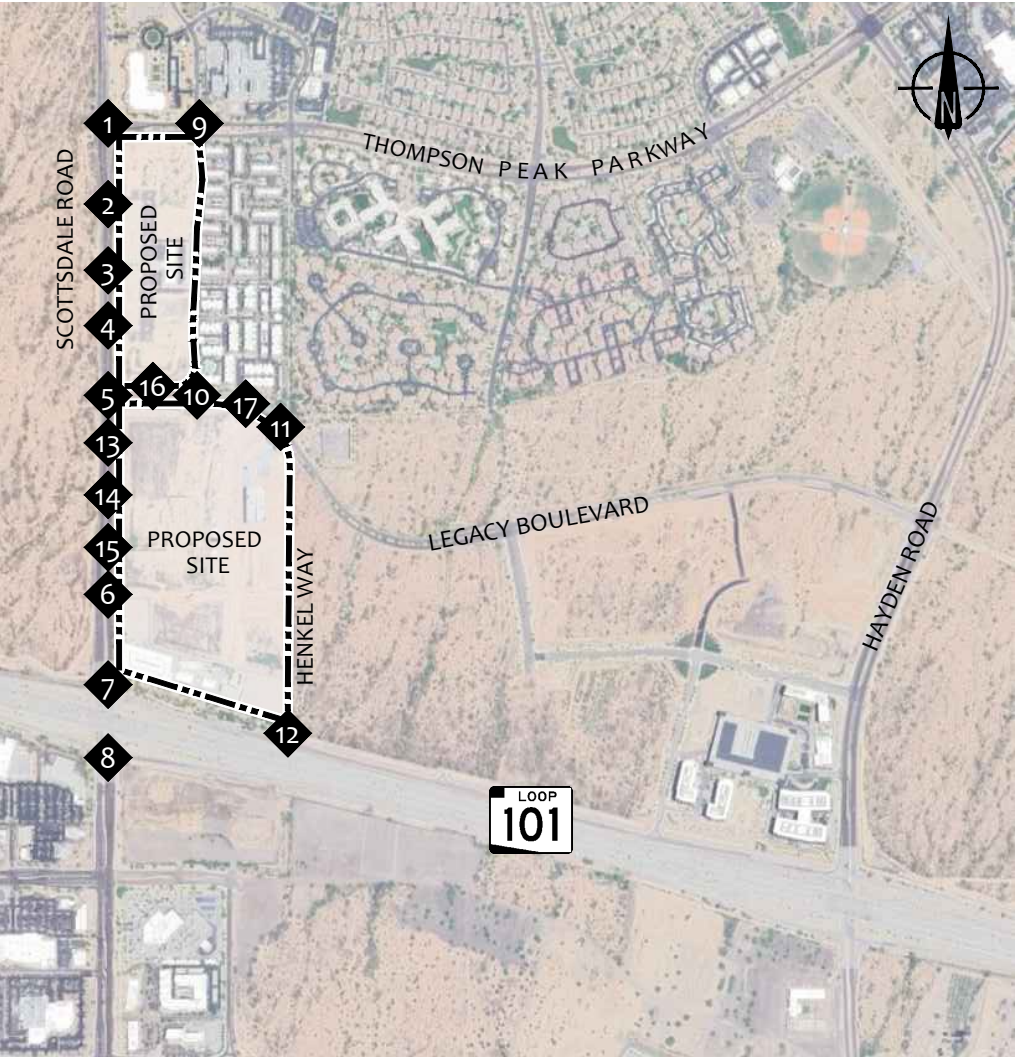
A capacity analysis was performed for the existing study intersections with traffic analysis software, *Synchro Version 12*. The level of service for the study area intersections, with the exception of the clustered intersections, were evaluated using the methodology presented in the 7th Edition of the *Highway Capacity Manual (HCM)*. HCM 7th Edition methodology does not support the clustered signalized freeway ramp intersections. Thus, the level of service for the clustered intersections were evaluated using *Synchro Version 12* methodologies. The peak hour factors (PHF) obtained from the traffic counts were utilized for the existing capacity analysis. See [Appendix D](#) for the existing signal timing obtained from the City of Scottsdale.

Table 3 is from the 7th Edition of the *Highway Capacity Manual* Exhibit 19-8 and 20-2, which lists the Level of Service (LOS) thresholds for signalized and stop-controlled intersections.

Table 3 – Level of Service Criteria

Level of Service	Control Delay per Vehicle (s/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	0 - 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

See [Figure 6](#) for the existing AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in [Appendix E](#).



LEGEND
AM (PM) Peak Hour Traffic Volumes
X Intersection

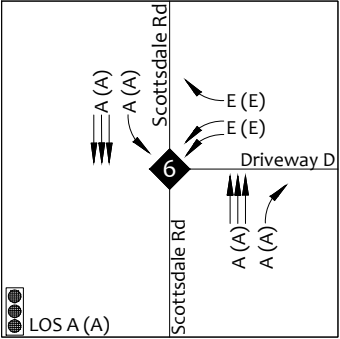
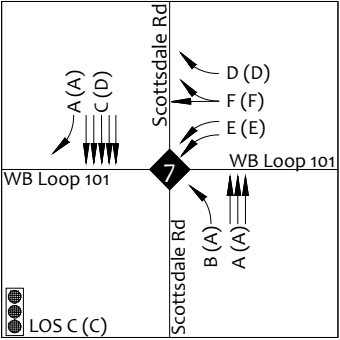
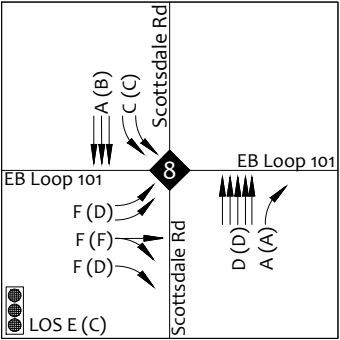
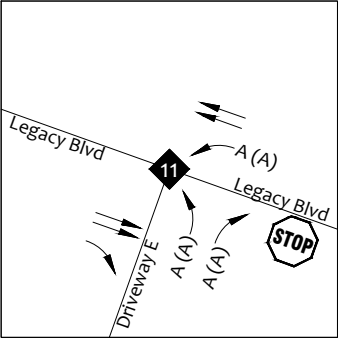
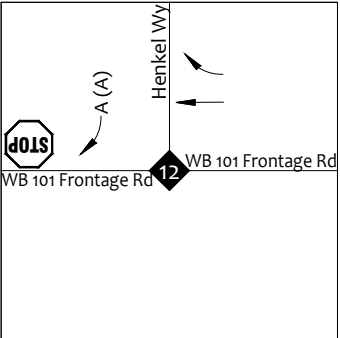


FIGURE 6 | EXISTING CAPACITY ANALYSIS



5. PREVIOUSLY PROJECTED TRAFFIC

A Traffic Impact and Mitigation Analysis (TI&MA), dated May 27, 2016, was completed for the One Scottsdale development (Case No. 20-ZN-2002#3) and was approved June 21, 2016. The prior study calculated the anticipated trips generated by the previously proposed One Scottsdale development.

The previously proposed One Scottsdale development included the following land uses:

- Retail 269,900 square feet
- Office 2,171,089 square feet
- Restaurant 100,000 square feet
- Hotel 400 rooms
- Multifamily Residential 1,716 dwelling units

As reported in the prior study, the previously proposed One Scottsdale development was anticipated to generate the following trips:

Table 4 – Trip Generation – Previously Proposed One Scottsdale - Original

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Previously Proposed One Scottsdale	31,184	3,960	2,781	1,179	3,961	1,311	2,650

To quantify the trip generation difference between the previously proposed One Scottsdale and proposed One Scottsdale development, the former trip generation is modified to take into consideration the changes in the proposed site. This includes the build-out of the hotel in PU III, which did not exist in 2016. Therefore, the trip generation for a 130-room hotel was removed from the former One Scottsdale development calculation. The previously proposed One Scottsdale development was anticipated to generate the following trips:

Table 5 – Trip Generation – Previously Proposed One Scottsdale - Modified

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Previously Proposed One Scottsdale	30,547	3,911	2,754	1,157	3,909	1,288	2,621



6. PROJECTED TRAFFIC

6.1. TRIP GENERATION

The trip generation for the proposed development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation*, 11th Edition. The ITE rates are based on studies that measured the trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is considered to be the standard for the transportation engineering profession.

The proposed One Scottsdale development is assumed to consist of the following land uses and units:

PLANNING UNIT II	<u>PROPOSED</u>	<u>(EXISTING)</u>
• Retail	42,500 square feet	-
• Office	749,844 square feet	(325,156 square feet)
• Restaurant	102,500 square feet	-
• Hotel	270 rooms	-
• Multifamily Residential	1,750 dwelling units	-

PLANNING UNIT III	<u>PROPOSED</u>	<u>(EXISTING)</u>
• Retail	38,000 square feet	-
• Office	223,000 square feet	-
• Restaurant	13,000 square feet	-
• Hotel	-	(130 rooms)
• Multifamily Residential	-	(750 dwelling units)

General assumptions were made regarding the land use subcategories to calculate the trip generation utilizing ITE.

INTERNAL CAPTURE

Given the mixed-use nature of the proposed development which includes retail, restaurant, office, hotel, and residential land uses in each planning unit, it is anticipated that a portion of the trips will be internal, i.e. beginning and ending within the development. Based on the *NCHRP Report 684 – Enhancing Internal Trip Capture Estimation of Mixed-Use Developments*, the internal capture rates for trip origins and trip destinations within a multi-use development were applied for the AM and PM peak hours. The internal capture calculations were calculated separately for Planning Unit II and Planning Unit III. The existing land uses within the One Scottsdale development were included in the internal capture calculations.



PASS-BY TRIPS

Pass-by trips are intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from the existing traffic passing the site on an adjacent street or roadway that offers direct access to the generator. These trips are not considered to add new traffic to the adjacent street network and may be reduced from the total external trips generated by the proposed development. Pass-by rates were based on the Pass-By Data and Rate Tables/2021 Pass-By Tables provided in the Trip Generation Manual Appendix. These rates were applied to the AM and PM peak hours.

The proposed development's total peak hour trips, including pass-by trips, are considered in the site driveway volumes.

6.1.1. PROPOSED DEVELOPMENT

PLANNING UNIT II

Planning Unit II of the proposed One Scottsdale development is anticipated to generate a total of 21,829 weekday trips, with 1,809 trips occurring during the AM peak hour and 1,798 trips occurring during the PM peak hour. The trip generation for PU II of the proposed One Scottsdale development is shown in **Table 6**.

Table 6 – Trip Generation – Proposed One Scottsdale - PU II

Land Use	ITE LUC	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	1,750	Dwelling Units	8,301	758	174	584	683	417	266
Shopping Plaza (40-150k) (w/o Supermarket)	821	42.5	1000 Sq Ft GFA	2,870	74	46	28	221	108	113
Hotel	310	270	Rooms	2,503	128	72	56	172	87	85
Fine Dining Restaurant	931	76.875	1000 SF GFA	6,445	56	31	25	600	402	198
High-Turnover (Sit-Down) Restaurant	932	25.625	1000 SF GFA	2,747	245	135	110	232	142	90
General Office Building	710	749.8	1000 SF GFA	6,696	947	833	114	884	150	734
Subtotal				29,562	2,208	1,291	917	2,792	1,306	1,486
Internal Capture				6,219	399	185	214	714	357	357
Pass-By Trips				1,514	0	0	0	280	196	84
Total One Scottsdale PU II				21,829	1,809	1,106	703	1,798	753	1,045

PLANNING UNIT III

Planning Unit III of the proposed One Scottsdale development is anticipated to generate a total of 8,157 weekday trips, with 529 trips occurring during the AM peak hour and 868 trips occurring



during the PM peak hour. The trip generation for PU III of the proposed One Scottsdale development is shown in **Table 7**.

Table 7 – Trip Generation – Proposed One Scottsdale - PU III

Land Use	ITE LUC	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Strip Retail Plaza (<40k)	822	16	1000 SF GLA	871	38	23	15	105	53	52
Convenience Store/Gas Station	945	16	Fueling Positions	4,114	433	217	216	364	182	182
Automobile Care Center	942	17	1000 SF GFA	403	38	25	13	53	25	28
High-Turnover (Sit-Down) Restaurant	932	9.8	1000 SF GFA	1,045	93	51	42	88	54	34
Fast-Food Restaurant with Drive-Through Window	934	3.3	1000 SF GFA	1,519	145	74	71	107	56	51
Medical-Dental Office Building	720	223.0	1000 SF GFA	9,474	496	392	104	904	271	633
Subtotal				17,426	1,243	782	461	1,621	641	980
Internal Capture				5,858	420	210	210	516	258	258
Pass-By Trips				3,411	294	145	149	237	133	104
Total One Scottsdale PU III				8,157	529	427	102	868	250	618

Detailed trip generation calculations are provided in **Appendix F**.

TOTAL PROPOSED ONE SCOTTSDALE

The total trip generation for the proposed One Scottsdale development is shown in **Table 8**.

Table 8 – Trip Generation – Proposed One Scottsdale - Total

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Proposed One Scottsdale	29,986	2,338	1,533	805	2,666	1,003	1,663



6.1.2. PREVIOUSLY PROPOSED VS. PROPOSED DEVELOPMENT

A trip generation comparison between the previously proposed and proposed One Scottsdale development is shown in **Table 9**.

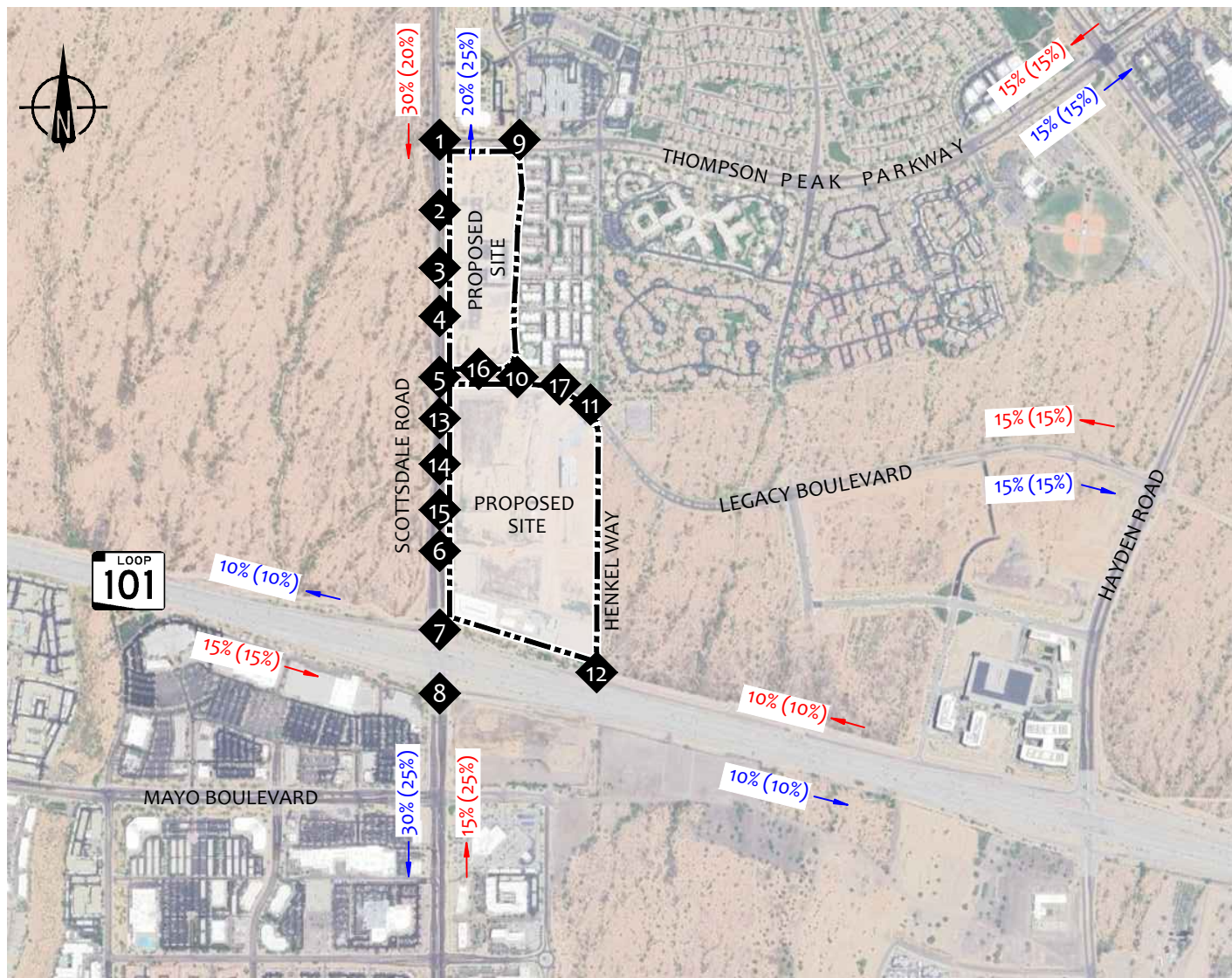
Table 9 – Trip Generation Comparison

	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Previously Proposed One Scottsdale	30,547	3,911	2,754	1,157	3,909	1,288	2,621
Proposed One Scottsdale	29,986	2,338	1,533	805	2,666	1,003	1,663
Difference	-561	-1,573	-1,221	-352	-1,243	-285	-958

6.2. TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution procedure determines the pattern of travel for vehicles entering and exiting the proposed development. The trip distribution for the proposed One Scottsdale is generally based on the distribution of existing traffic with adjustments to consider probable routes and the surrounding roadway network. The trip distribution is shown in **Figure 7**.

The trip assignment was based on proximity of the driveways, permitted turn movements, as well as ease and probability of use. The site generated traffic volumes including pass-by are shown in **Figure 8**.



LEGEND

AM (PM) Inbound Trip Distribution Percentages

AM (PM) Outbound Trip Distribution Percentages

X Intersection

FIGURE 7 | TRIP DISTRIBUTION

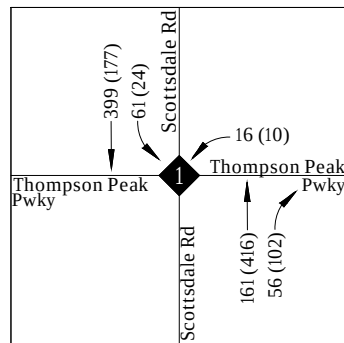
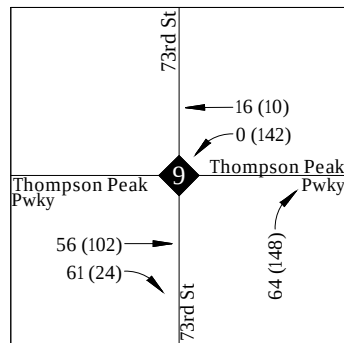
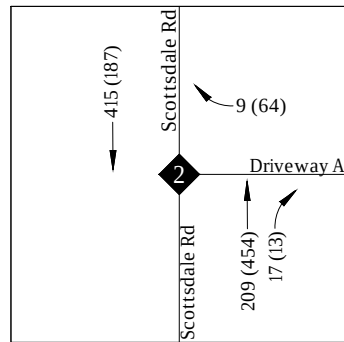
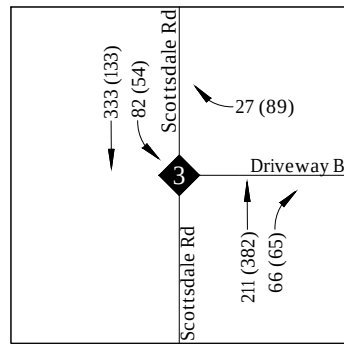
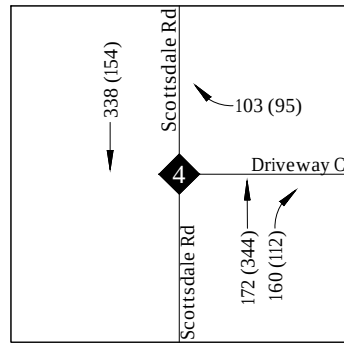
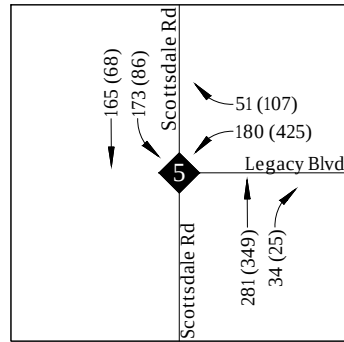
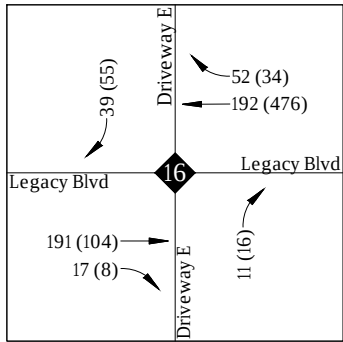
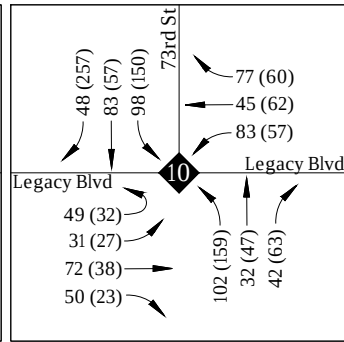
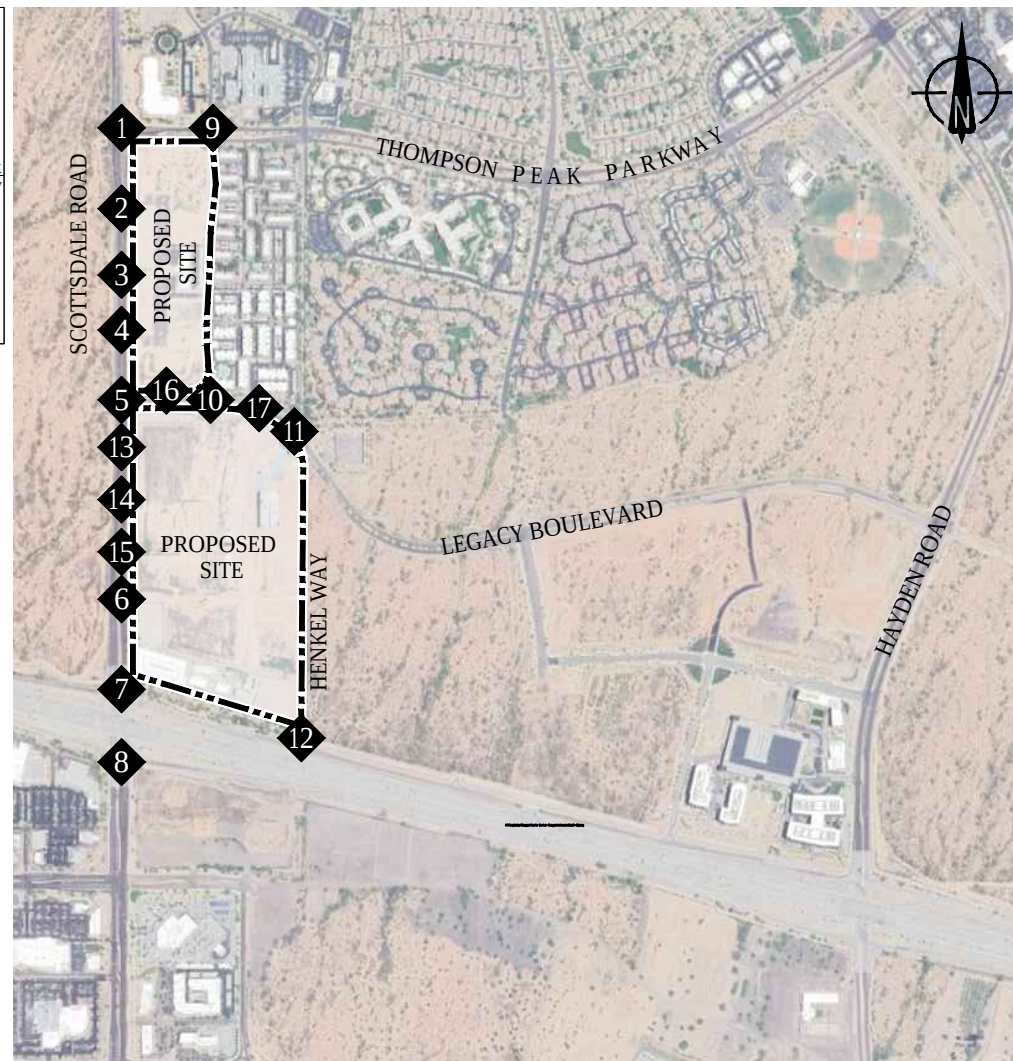
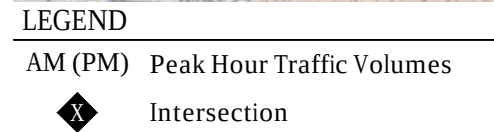
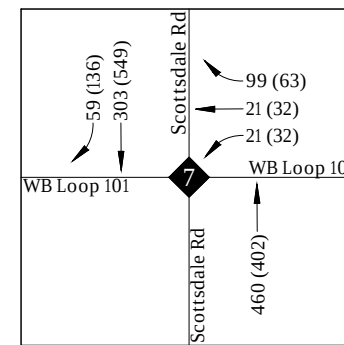
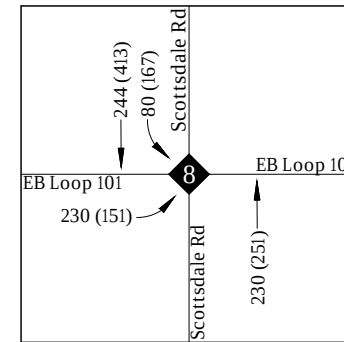
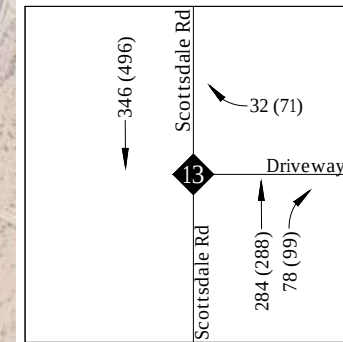
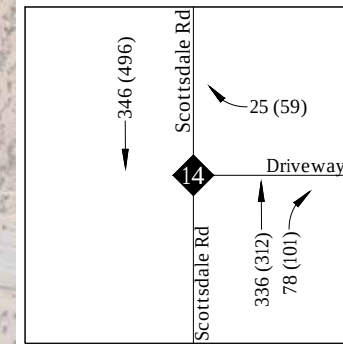
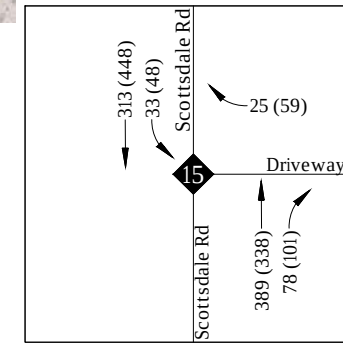
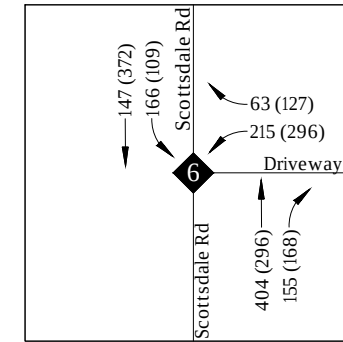
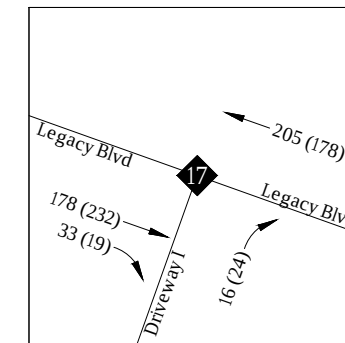
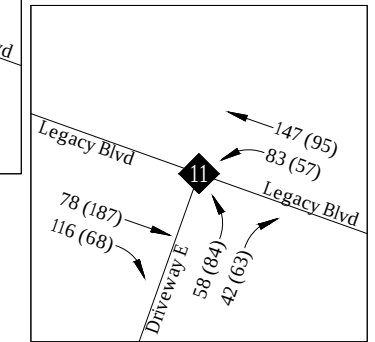
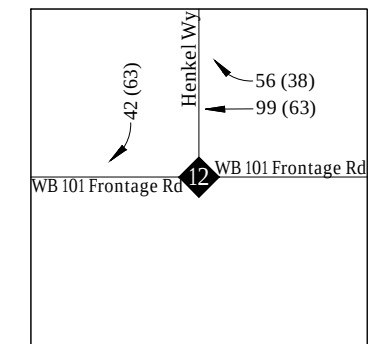


FIGURE 8 | NET NEW SITE TRAFFIC VOLUMES



7. FUTURE CONDITIONS (YEAR 2028 – BUILD-OUT YEAR)

The proposed One Scottsdale development is assumed to open in the year 2028. This section analyzes the effects the proposed development will have on the surrounding roadway network during the opening year.

7.1. YEAR 2028 FUTURE ROADWAY NETWORK

The following roadway network improvements are assumed in year 2028 with the build-out of the proposed development:

Scottsdale Road

- Widen Scottsdale Road to 3 lanes in each direction of travel, between Henkel Way and Thompson Peak Parkway

Scottsdale Road and Henkel Way (6)

- Improve southbound signal head to include permitted – protected left turn phasing

Legacy Boulevard and Driveway E (16)

- Install westbound right turn lane

Legacy Boulevard and 73rd Street (10)

- Modify striping to include a through lane on the north and south approaches

7.2. YEAR 2028 BACKGROUND TRAFFIC VOLUMES

The 2023 Maricopa Associations of Governments (MAG) Socioeconomic Projections were utilized to determine the annual growth rate based on data for the City of Scottsdale within the study area - Regional Analysis Zone 230 (RAZ 230). It is estimated that in the year 2020 the population of the study area was approximately 32,628. MAG estimates that the 2030 population of the study area will be approximately 38,951. This results in an approximate annual growth rate of 1.79% between 2020 and 2030. A 1.79% annual growth rate was considered to project the year 2028 background traffic volumes. See **Appendix G** for the MAG 2023 socioeconomic projections. The year 2028 background traffic volumes are shown in **Figure 9**, which includes the 1.79% annual growth rate.

7.3. YEAR 2028 BUILD TRAFFIC VOLUMES

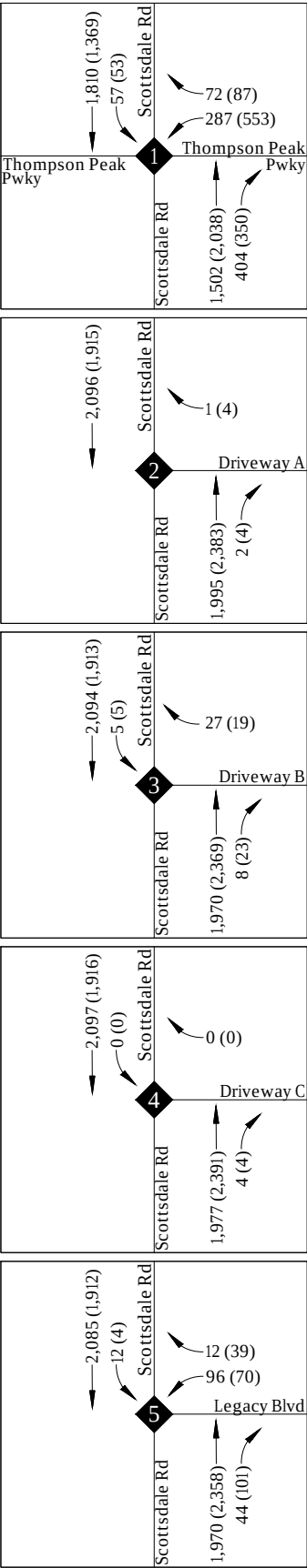
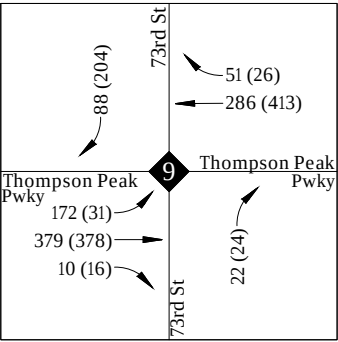
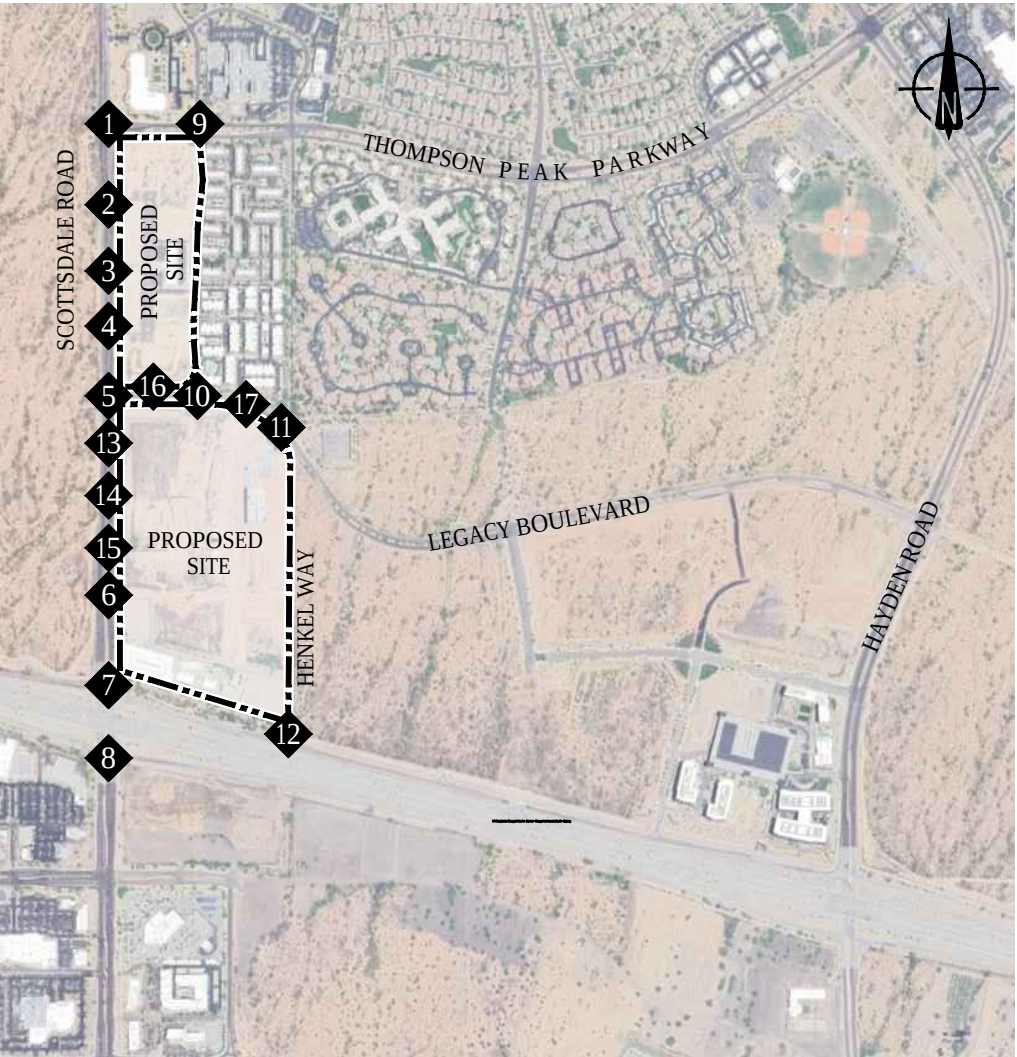
To determine the year 2028 build traffic volumes, the site traffic volumes (**Figure 8**) were added to the year 2028 background traffic volumes (**Figure 9**). This represents the year 2028 traffic volumes with the build-out of the proposed One Scottsdale development. The year 2028 build traffic volumes are shown in **Figure 10**.



7.4.YEAR 2028 BUILD CAPACITY ANALYSIS

The year 2028 build capacity analysis was completed for the study intersections during the AM and PM peak hour using the methodology described in [Section 4.3](#). Signal timing splits were optimized for the future traffic volumes and a peak hour factor (PHF) of 0.92 was used for future conditions.

The proposed lane configurations, traffic control, and 2028 build LOS results are shown in [Figure 11](#). The detailed build and no build capacity analysis sheets can be found in [Appendix H](#) and [Appendix I](#).



LEGEND

AM (PM) Peak Hour Traffic Volumes

Intersection

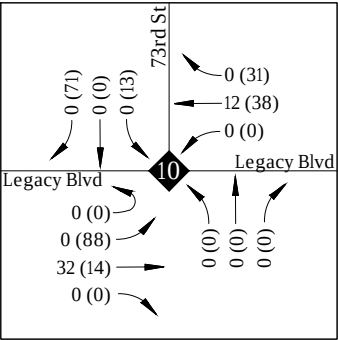
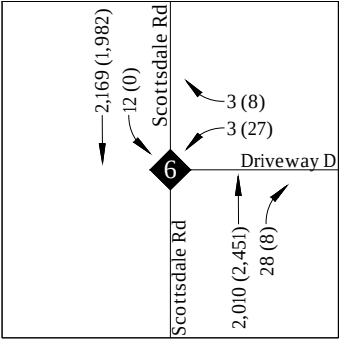
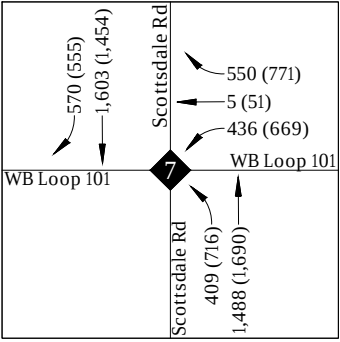
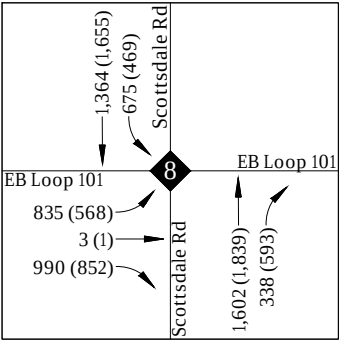
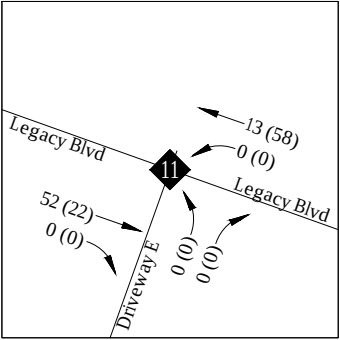
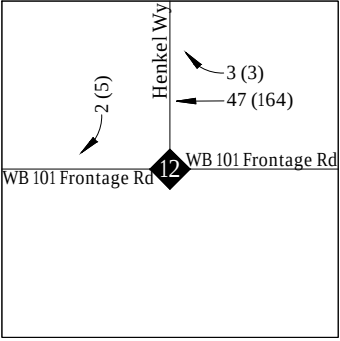
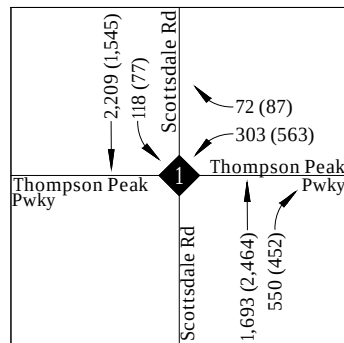
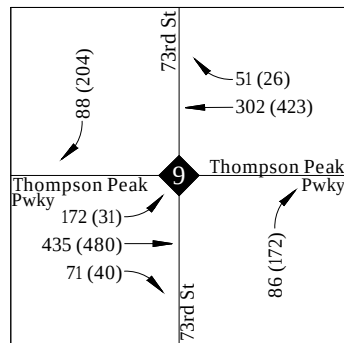
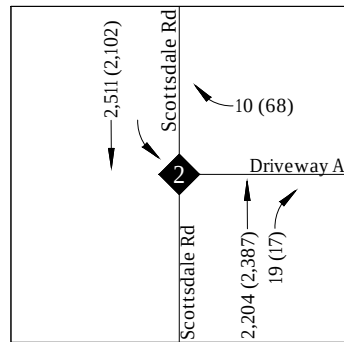
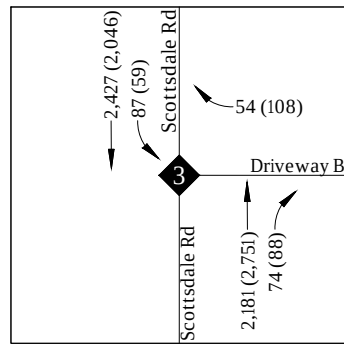
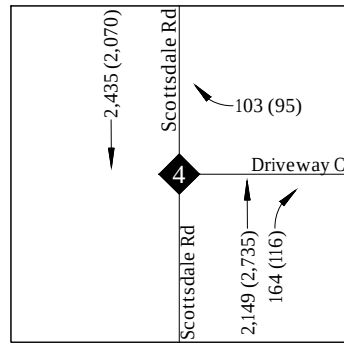
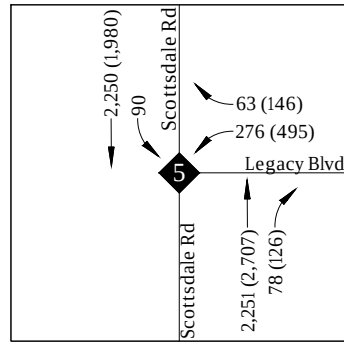
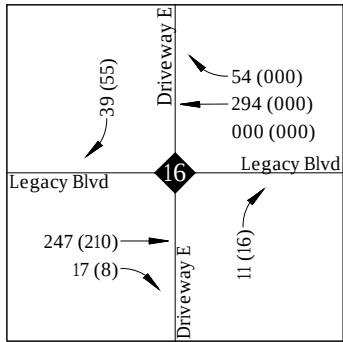
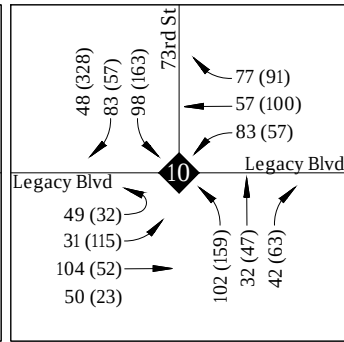
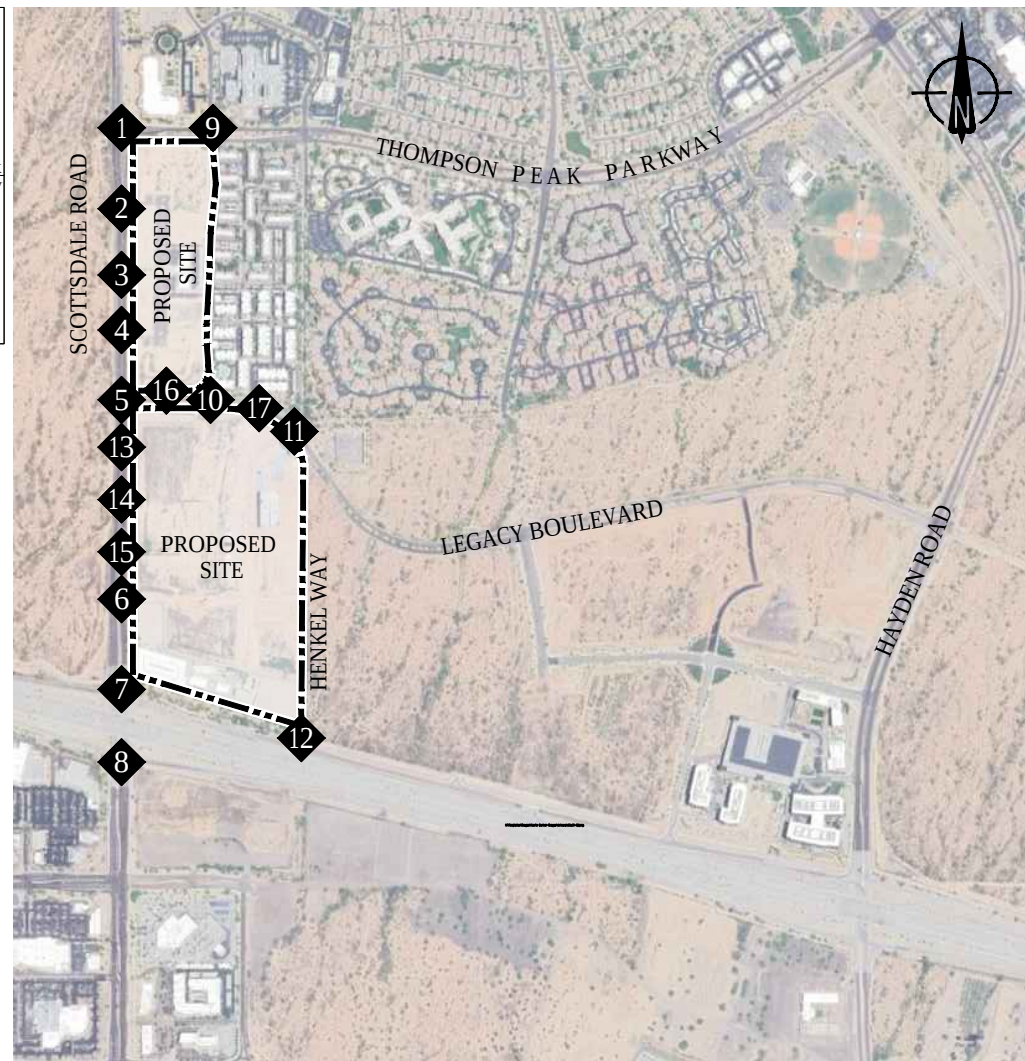


FIGURE 9 | YEAR 2028 BACKGROUND TRAFFIC VOLUMES



LEGEND

AM (PM) Peak Hour Traffic Volumes

Intersection

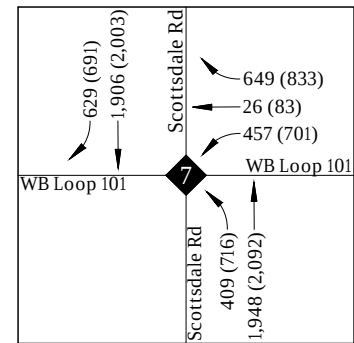
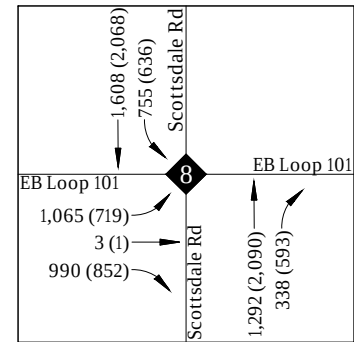
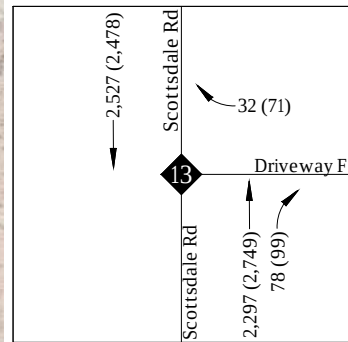
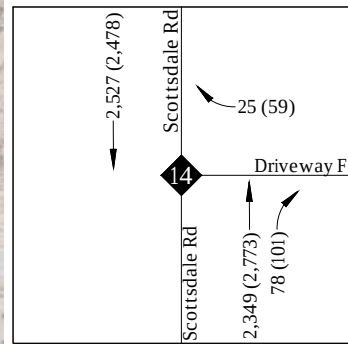
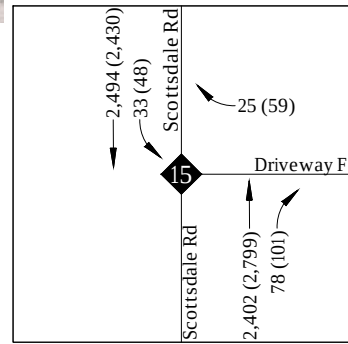
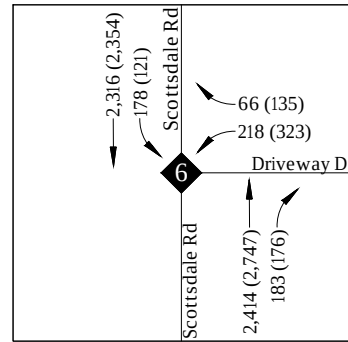
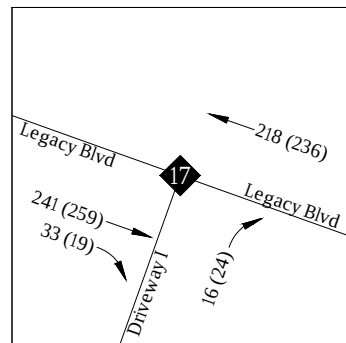
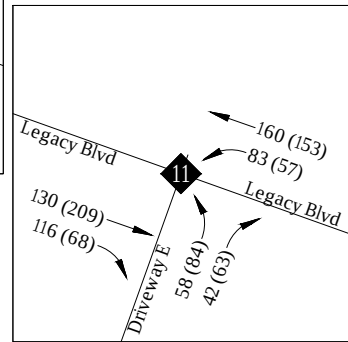
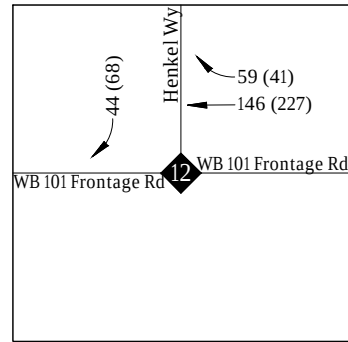
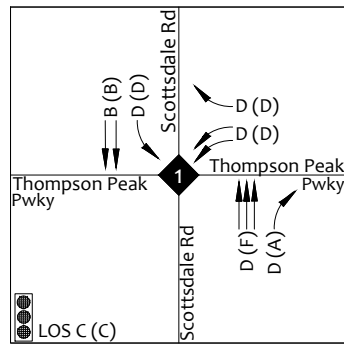
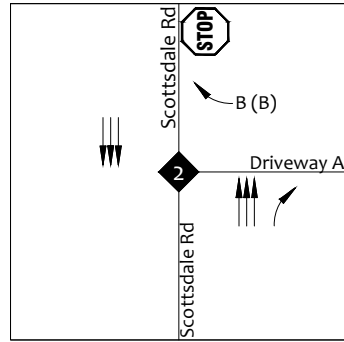
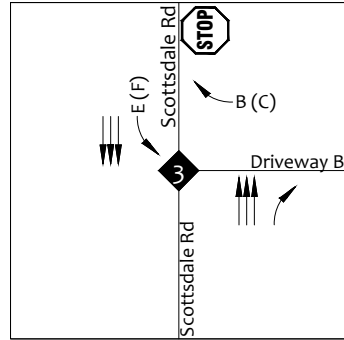
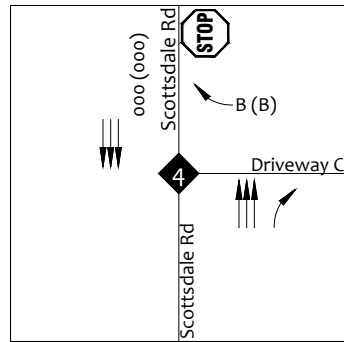
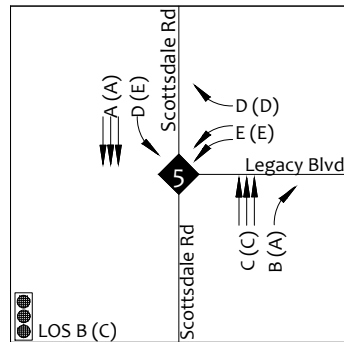
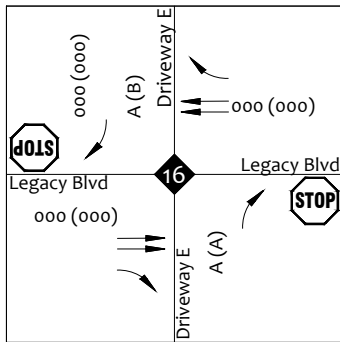
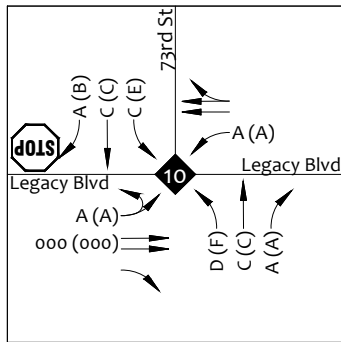
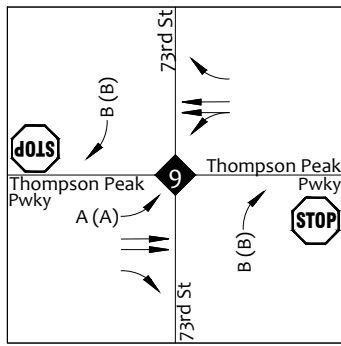
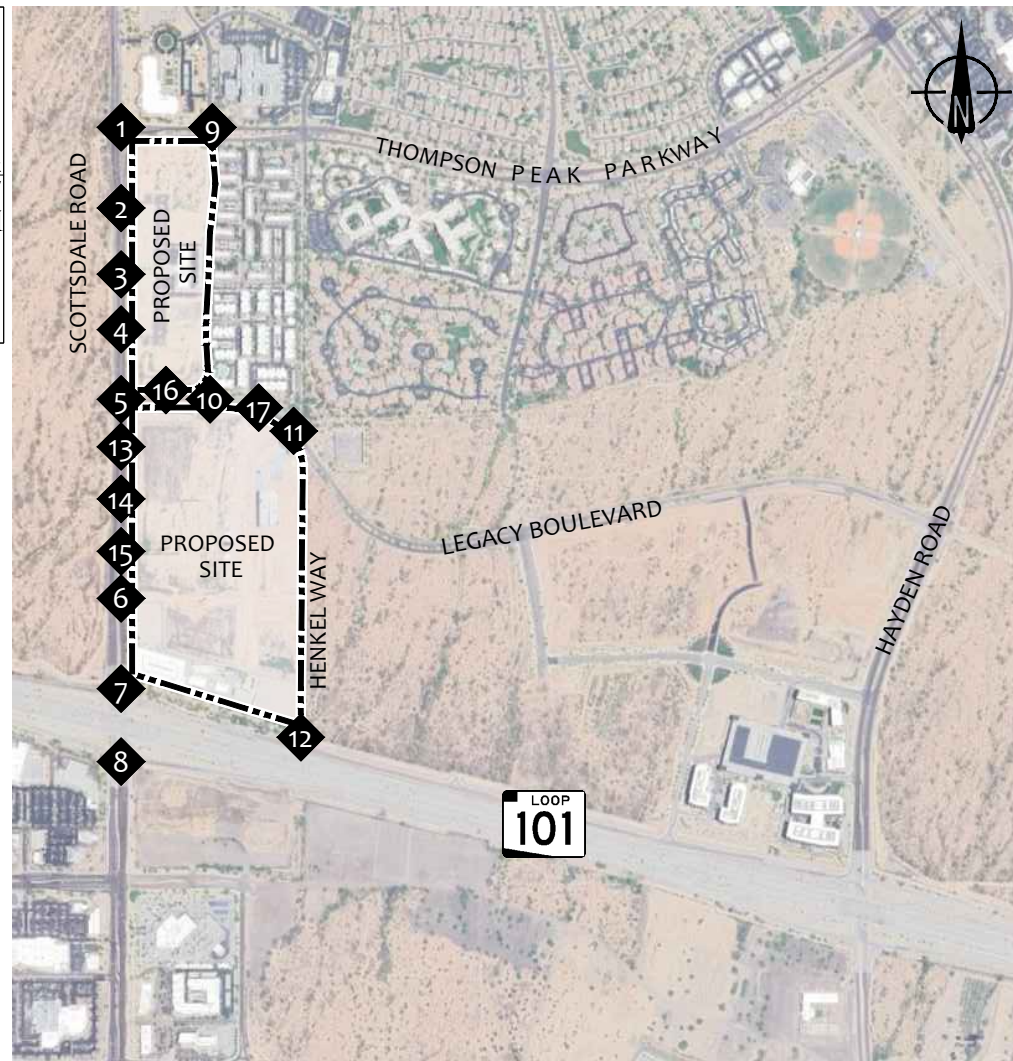


FIGURE 10 | YEAR 2028 BUILD TRAFFIC VOLUMES



LEGEND

AM (PM) Peak Hour Traffic Volumes

X Intersection

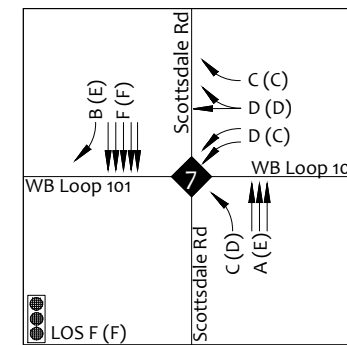
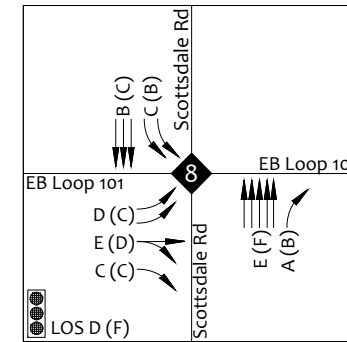
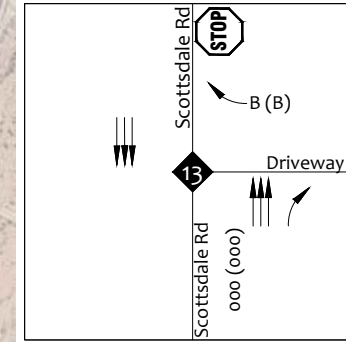
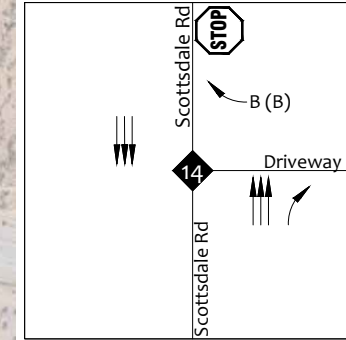
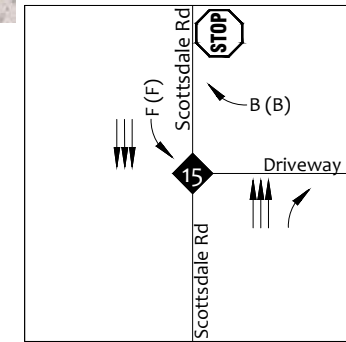
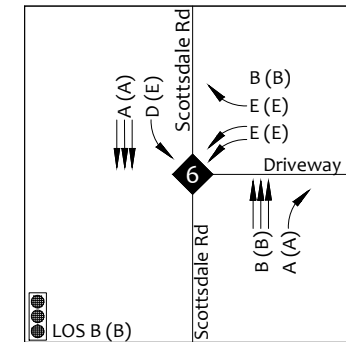
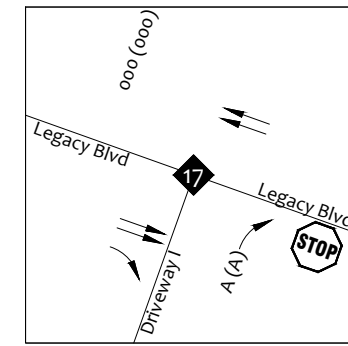
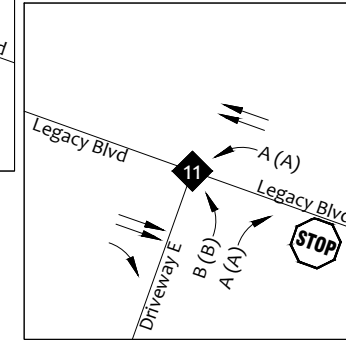
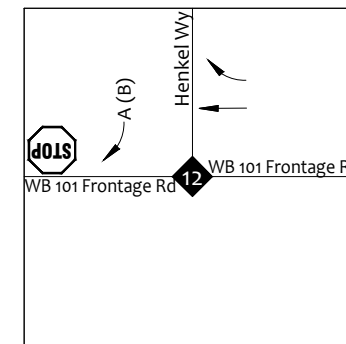


FIGURE 11 | YEAR 2028 BUILD CAPACITY ANALYSIS



8. TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrant analyses were performed at the following intersections with the following assumed lane configurations:

- **Legacy Boulevard and 73rd Street (10)**
NB/SB – 1 lane approaches
EB/WB – 2 lane approaches

8.1. MUTCD SIGNAL WARRANTS

The signal warrant analysis is based on the signal warrants as defined in the 2009 *Manual on Uniform Traffic Control Devices (MUTCD)*.

Warrant 1, Eight Hour Volume is the predominant criteria used and is based on minimum traffic volumes that must be present on both the major and minor streets. There are two conditions established for the 8-hour signal warrant. Condition A requires large intersecting traffic volumes. Condition B requires large major street traffic volumes, which limits the ability of the side street to enter or cross the major street. To satisfy the 8-hour signal warrant, either Condition A, Condition B, or 80% of the volume requirements for BOTH Condition A and Condition B must be met for at least 8 hours of the day.

Warrant 2, Four-Hour Vehicular Volume is a 4-hour warrant requiring higher traffic volumes than the 8-hour warrant and is intended to be applied where the volume of intersection traffic is the principal reason for traffic signal installation.

Warrant 3, Peak Hour is a peak hour warrant and applies in unusual cases, such as an office complex, manufacturing plant, or industrial complex, or high-occupancy vehicle facility.

Warrant 4, Pedestrian Volume is intended for use in cases where the volume on a major street is so heavy, the pedestrians experience excessive delay in crossing the major street.

Warrant 5, School Crossing Warrant intended for use in cases where school children do not have adequate gaps to safely cross the major street. A minimum of 20 schoolchildren during the highest hour satisfies this warrant.

Warrant 6, Coordinated Signal System is associated with progressive movement to aid in platooning of vehicles.

Warrant 7, Crash Experience is a crash experience warrant and is for locations where the severity and frequency of crashes are the principal reasons to consider a traffic signal. This warrant requires five or more crashes in a 12-month period that can be corrected by a traffic signal.



Warrant 8, Roadway Network is justified to encourage concentration and organization of traffic flow in a roadway network.

Warrant 9, Intersection Near Grade Crossing is associated with intersections near a grade crossing.

8.2. LEGACY BOULEVARD AND 73RD STREET APPROACH VOLUMES

A signal warrant analysis was performed for the intersection of Legacy Boulevard and 73rd Street (10) using the year 2033 traffic volumes with the build-out of the proposed One Scottsdale. The 24-hour approach counts on Legacy Boulevard and 73rd Street were utilized to perform the signal warrant analysis and a 1.79% annual growth rate was applied through the year 2033.

The Institute of Transportation Engineers (ITE) time-of-day distribution spreadsheet which includes information on the hourly distribution of vehicle trips entering and exiting study sites by various land uses was utilized to determine the distribution for each proposed land use within the One Scottsdale development.

8.3. LEGACY BOULEVARD AND 73RD STREET SIGNAL WARRANT ANALYSIS

According to the MUTCD, if the posted speed limit on the major street exceeds 40 mph, the traffic volumes in the 70% columns may be used in place of the 100% columns. Legacy Boulevard has a posted speed limit of 30 mph; therefore 100% columns were used. For the purpose of this study, and based solely upon the traffic volumes, Warrants 1, 2, and 3 are considered applicable. The following is a summary of the signal warrant analysis.

8.3.1. YEAR 2033 - BUILD

- **Warrant 1 – 8-Hour Vehicular Volume – Satisfied**
Eleven (11) hours meet Warrant 1: Condition A or B
Eight (8) hours meet Warrant 1: Condition A and B
- **Warrant 2 – 4-Hour Vehicular Volume – Satisfied**
Twelve (12) hours meet Warrant 2
- **Warrant 3 – Peak Hour – Satisfied**
Zero (0) hours meet Warrant 3: Condition A
Twelve (12) hours meet Warrant 3: Condition B

Warrants 1, 2, and 3 are satisfied for the intersection of Legacy Boulevard and 73rd Street with the build-out of proposed One Scottsdale development in the year 2033.



Although a traffic signal is warranted, the signal control is not incorporated in the build capacity analysis as acceptable levels of service are achieved in the AM peak hour and adequate storage is provided for the queued vehicles in the PM peak hour. It is recommended that additional traffic signal warrant analyses be conducted in the future as surrounding development progresses and forecasted traffic volumes are realized to determine the appropriate timing for signal control.

The detailed signal warrant analysis can be found in **Appendix J**.



9. RECOMMENDATIONS AND CONCLUSIONS

A Traffic Impact and Mitigation Analysis (TI&MA), dated May 27, 2016, was completed for the One Scottsdale development (Case No. 20-ZN-2002#3) and was approved June 21, 2016. This report serves as an update to the previously approved TI&MA. Planning Unit (PU) II and III of the One Scottsdale development are evaluated in this report. PU II is located on the northeast corner of Loop 101 and Scottsdale Road and PU III on the northeast corner of Legacy Boulevard and Scottsdale Road in Scottsdale, Arizona. For the purpose of the TI&MA, the build-out year of One Scottsdale is assumed to occur in the year 2028 and to consist of the following land uses and units:

PLANNING UNIT II	PROPOSED	(EXISTING)
• Retail	42,500 square feet	-
• Office	749,844 square feet	(325,156 square feet)
• Restaurant	102,500 square feet	-
• Hotel	270 rooms	-
• Multifamily Residential	1,750 dwelling units	-

PLANNING UNIT III	PROPOSED	(EXISTING)
• Retail	38,000 square feet	-
• Office	223,000 square feet	-
• Restaurant	13,000 square feet	-
• Hotel	-	(130 rooms)
• Multifamily Residential	-	(750 dwelling units)

Recommendations

The following are the recommendations with the build-out of the proposed One Scottsdale:

Scottsdale Road and Henkel Way (6)

- Improve southbound signal head to include permitted – protected left turn phasing

Legacy Boulevard and 73rd Street (10)

- Modify striping to include a through lane on the north and south approaches
- Although a traffic signal is warranted, the signal control is not incorporated in the build capacity analysis as acceptable levels of service are achieved in the AM peak hour and adequate storage is provided for the queued vehicles in the PM peak hour. It is recommended that additional traffic signal warrant analyses be conducted in the future as surrounding development progresses and forecasted traffic volumes are realized to determine the appropriate timing for signal control.

Scottsdale Road and Driveway F (13)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements



- Install westbound right turn lane

Scottsdale Road and Driveway G (14)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane

Scottsdale Road and Driveway H (15)

- Construct a one-way stop-controlled driveway, which allows for right-in/right-out/left-in movements
- Install westbound right turn lane

Legacy Boulevard and Driveway E (16)

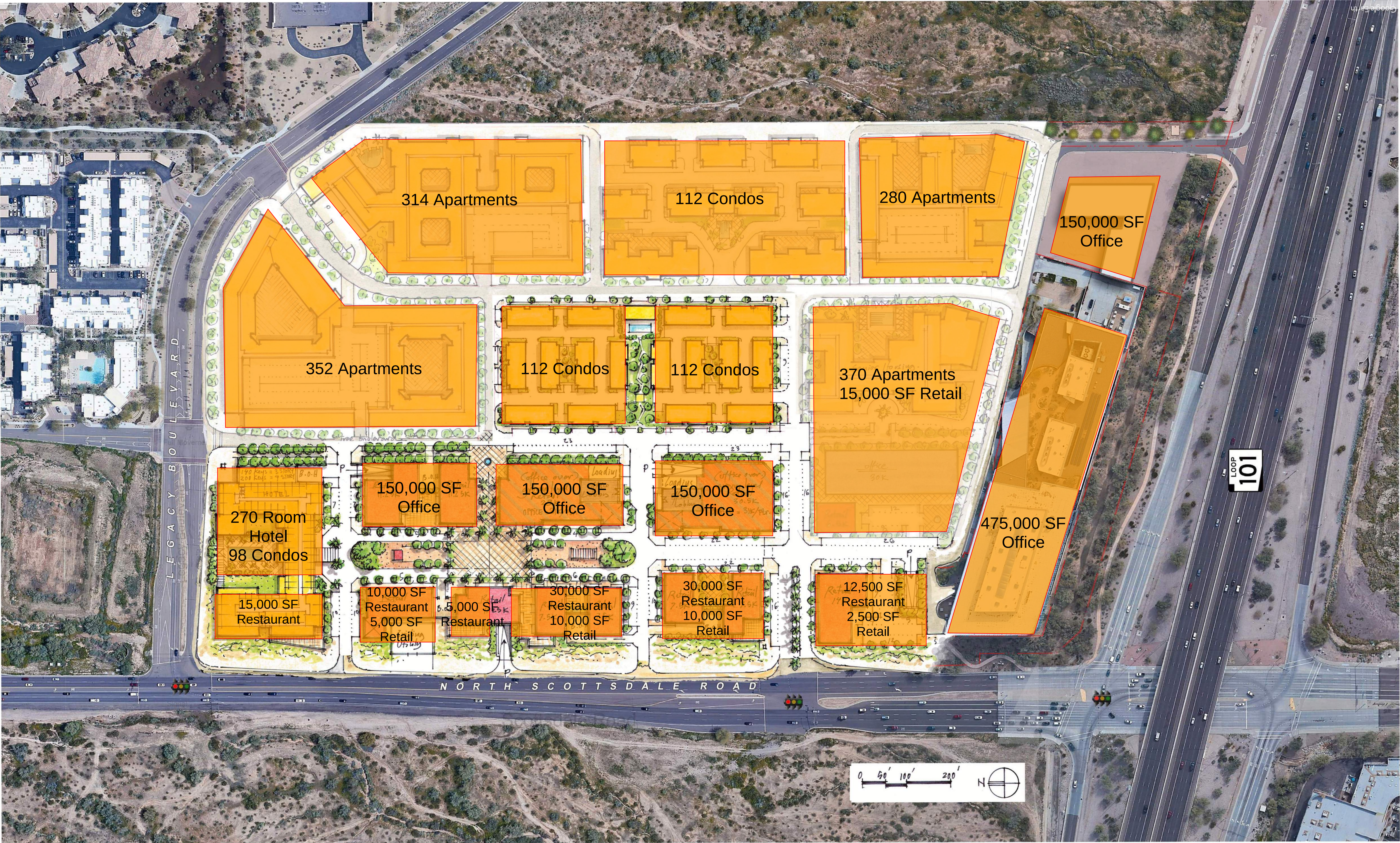
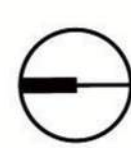
- Construct a two-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane

Legacy Boulevard and Driveway I (17)

- Construct a one-way stop-controlled driveway, which allows for RIRO movements
- Install westbound right turn lane



Appendix A – Proposed Site Plan





Pad A

Site Area: 1.51 acres net
Building Area: 9,000gsf
Parking Provided: 79 spaces

Shops A

Site Area: 2.01 acres net
Building Area: 9,600gsf
Parking Provided: 76 spaces

Shops B

Site Area: 1.96 acres net
Building Area: 10,700gsf
Parking Provided: 75 spaces

Pad B

Site Area: 1.45 acres net
Building Area: 17,000gsf
Parking Provided: 67 spaces

C-Store Pad

Site Area: 2.30 acres net
Building Area: 4,993gsf
Parking Provided: 43 spaces

Office Parcel A

Site Area: 6.52 acres net
Building Area: 102,442gsf (98,344rsf)
Parking Provided: 374 spaces (3.80 : 1000rsf)

Hotel Parcel

Site Area: 2.27 acres net
Building Area: 66,800gsf (130 rooms)
Parking Provided: 130 spaces

Office Parcel B

Site Area: 3.60 acres net
Building Area: 45,500gsf (43,500rsf)
Parking Provided: 218 spaces (5.01 : 1000rsf)



Appendix B – May 27, 2016 One Scottsdale TI&MA



One Scottsdale Traffic Impact and Mitigation Analysis



EXPIRES 6-30-16

Prepared for:



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Scottsdale, AZ 85258-2137

Prepared by:



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4649 E. Cotton Gin Loop, Suite B2
Phoenix, AZ 84040

Project Number: 150835
May 27, 2016

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1. Introduction and Summary

1.1. Purpose of Report and Study Objectives

J2 Engineering and Environmental Design was retained by DMB to perform a traffic impact study for the proposed One Scottsdale development located in Scottsdale, Arizona.

The development is located on the northeast corner of State Route 101 Loop (SR 101L) and Scottsdale Road. See **Figure 1**.

The objectives of this traffic impact study are to quantify the traffic impact of the development and to determine what improvements are necessary to ensure safe and efficient access to and from the site.

1.2. Executive Summary

On December 8, 2015, a Traffic Impact and Mitigation Analysis was submitted to the City of Scottsdale. This prior study calculated and compared the anticipated trips generated by the entire proposed One Scottsdale development with the 2006 Staked 40s proposed development. See **Appendix J** for the full study.

The proposed One Scottsdale development is located on the northeast corner of L101 and Scottsdale Road in the City of Scottsdale, Arizona. See **Figure 2**.

The proposed One Scottsdale development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

As reported in the prior study, the proposed One Scottsdale development is anticipated to generate the following trips:

One Scottsdale Trip Generation

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
One Scottsdale	31184	15592	15592	3960	2781	1179	3961	1311	2650

In an effort to quantify the trip generation difference between the Stacked 40s and One Scottsdale developments, the original trip generation with the report had to be modified to take into consideration the changes in the proposed site. This includes the build out of the Henkel building, which did not exist in 2006. However, the Stacked 40s master plan and trip generation calculations included the parcel that the Henkel building currently sits on. Therefore, a total of 325,156 square feet of office space was removed from the Stacked 40s trip generation calculations. The former Stacked 40s development is anticipated to generate the following trips:

Stacked 40s Trip Generation – Modified

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stacked 40s	34812	17406	17406	2050	1509	541	3439	1338	2101

The following table shows the trip generation comparison of the former Stacked 40s development with the One Scottsdale development.

Trip Generation Comparison

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stacked 40s	34812	17406	17406	2050	1509	541	3439	1338	2101
One Scottsdale	31184	15592	15592	3960	2781	1179	3961	1311	2650
Difference	-3628	-1814	-1814	1910	1272	638	522	-27	549

Due to the reduction in retail uses and increase in residential and office land uses, the AM and PM peak hours are higher with the proposed One Scottsdale development. The AM peak hour is projected to generate a total of 3,960 trips with 2,781 inbound and 1,179 outbound, and the PM peak hour is projected to generate a total of 3,961 trips with 1,311 inbound and 2,650 outbound.

However, the overall weekday trips of the proposed One Scottsdale development are [10.4% less](#) than the 2006 generally accepted Stacked 40s development.

Therefore, the proposed One Scottsdale development will have less impact to the adjacent roadway network during the average weekday than the formerly approved Stacked 40s development.

This report presents the analysis and results of the existing conditions, along with Year 2020 (5 year) and Year 2025 (10 year) analyses for twenty-two study intersections and driveways for the proposed One Scottsdale development.

The existing conditions, along with Year 2020 (5 year) and Year 2025 (10 year) analyses were completed for twenty-two (22) study intersections and site driveways. See **Figure 3**.

Intersections

- Scottsdale Road and Thompson Peak Parkway (1)
- 73rd Street and Thompson Peak Parkway (2)
- Scottsdale Healthcare Drive and Thompson Peak Parkway (3)
- Scottsdale Road and Legacy Boulevard (4)
- Scottsdale Road and Henkel Way (5)
- Scottsdale Road and SR101L WB Ramp (6)
- Scottsdale Road and SR 101L EB Ramp (7)
- Henkel Way and SR 101L Frontage Road (8)
- Hayden Road and Thompson Peak Parkway (9)
- Hayden Road and Legacy Boulevard (10)
- Hayden Road and SR101L WB Ramp (11)
- Hayden Road and SR101L EB Ramp (12)
- 73rd Street and Legacy Boulevard (19)

Driveways

- Scottsdale Road and Driveway A (13)
- Scottsdale Road and Driveway B (14)
- Scottsdale Road and Driveway C (15)
- Legacy Boulevard and Driveway F (18)
- Legacy Boulevard and Driveway G (20)
- Legacy Boulevard and Driveway I (22)
- Scottsdale Road and Driveway J (23)
- Scottsdale Road and Driveway K (24)
- Scottsdale Road and Driveway L (25)



Existing Conditions

The existing conditions AM and PM peak hour capacity analysis resulted in all study intersections operating at a LOS D or better with the exception of:

Scottsdale Road and Thompson Peak Parkway (1) – Signalized

- NB through PM peak hour operates at LOS F
- NB right PM peak hour operates at LOS E
- SB left AM peak hour operates at LOS E
- WB left AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS E and LOS F, respectively

Scottsdale Healthcare Drive and Thompson Peak Parkway (3) – Signalized

- NB left AM and PM peak hours operate at LOS E and LOS F, respectively
- SB left AM and PM peak hours operate at LOS E and LOS F, respectively
- EB left PM peak hour operates at LOS E
- WB left PM peak hour operates at LOS F
- Overall intersection PM peak hour operates at LOS F

Scottsdale Road and Legacy Boulevard (4) – Signalized

- WB left AM and PM peak hours operate at LOS E

Scottsdale Road and Henkel Way (5) – Signalized

- SB left AM and PM peak hours operate at LOS E and LOS F, respectively
- WB left PM peak hour operates at LOS F

Scottsdale Road and SR 101L- WB Ramp (6) – Signalized

- NB left AM and PM peak hours operate at LOS E and LOS F, respectively
- NB through PM peak hour operate at LOS F
- SB right AM peak hour operates at LOS E
- WB left AM and PM peak hours operate at LOS F
- WB through AM and PM peak hours operate at LOS F
- WB right AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS E and LOS F, respectively

Scottsdale Road and SR 101L- EB Ramp (7) – Signalized

- SB left AM peak hour operates at LOS F

Hayden Road and Thompson Peak Parkway (9) – Signalized

- NB left PM peak hour operates at LOS E
- SB left PM peak hour operates at LOS E
- EB left PM peak hour operates at LOS E
- EB right PM peak hour operate at LOS E
- WB through PM peak hour operates at LOS E
- WB right PM peak hour operate at LOS E

Hayden Road and SR 101L WB Ramp (11) – Signalized

- NB left AM and PM peak hours operate at LOS F
- WB right AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS F

Hayden Road and SR 101L EB Ramp (12) – Signalized

- SB left AM and PM peak hours operate at LOS F and LOS E, respectively
- EB left PM peak hour operates at LOS F
- EB right AM peak hour operates at LOS E
- Overall intersection AM and PM peak hours operate at LOS F

Year 2020 (5 Year)

The Year 2020 AM and PM peak hour analysis assumes no changes to the existing roadway network and the build out of the following land uses:

- 145,405 square feet of Retail
- 446,384 square feet of Office
- 48,500 square feet of Restaurant
- 400 room Hotel
- 678 dwelling units of Multi-Family Residential

In general, the signalized study intersections shows improved levels of services when compared to the existing conditions. The signal cycle lengths were held, while modifying the splits to accommodate the change in traffic patterns due to the proposed development.

Additionally, the study driveways operate at an acceptable level of service of LOS D or better, with the exception of Scottsdale Road and Driveway A, where the westbound right turn movement operates at a LOS E during the PM peak hour, and Scottsdale Road and Driveway L, where the southbound left turn movement operates at a LOS F during the PM peak hour.

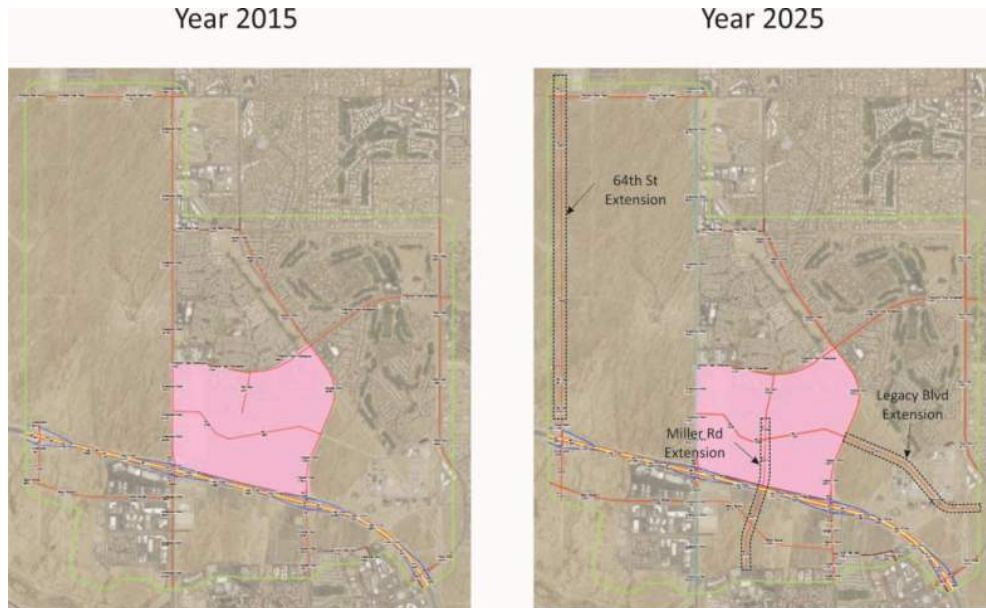
Evaluating the capacity analysis, with the exception an additional northbound thought lane on Scottsdale Road and the driveways for the proposed development, no additional improvements are necessary in Year 2020.



Year 2025 (10 Year)

The Year 2025 analysis assume the following changes to the roadway network based on the MAG 2025 model:

- Extension of 64th Street from SR 101L north to Pinnacle Peak Road.
- Extension of the Miller Road alignment Princess Boulevard to tie into the existing alignment just south of Thompson Peak Parkway
- Extension of Legacy Boulevard from Hayden Road to Pima Road.



These anticipated roadway network changes in Year 2025 provides additional circulation roadways for the area. Even with future developments in and around the surrounding area, these roadway connections help to relieve the Scottsdale Road congestion.

Currently the 64th Street terminates just north of the interchange with SR 101L freeway and is therefore underutilized. The nearest north-south roadway to the west is Tatum Boulevard, which is located approximately 3 miles to the west of Scottsdale Road. The extension of 64th Street to the north provides the area with an additional north-south roadway with direct access to SR 101L, located 1 mile west of Scottsdale Road and 2 miles east of Tatum Boulevard.

The Year 2025 AM and PM peak hour analysis assume the build out of the following land uses:

- 218,269 square feet of Retail
- 1,216,267 square feet of Office
- 92,000 square feet of Restaurant
- 400 room Hotel
- 1,078 dwelling units of Multi-Family Residential

In general, the signalized study intersections show improved or equivalent levels of service when compared to the existing conditions. The signal cycle lengths were held, while modifying the splits to accommodate the change in traffic patterns due to the proposed development.

Evaluating the 2025 AM and PM peak hour capacity analysis, additional northbound and southbound through lanes on Scottsdale Road between Henkel Way and Thompson Peak Parkway, providing three through lanes, are necessary. The majority of this improvement can be made with pavement marking and signing modifications.

An internal circulator will also be provided for the proposed One Scottsdale development which will further reduce the number of trips. No reductions were applied to accommodate the internal circulator. Therefore, the operation of the circulator will result in improved traffic operations beyond what is reported in this traffic study.

2. Proposed Development

The study area is located on the northeast corner of SR 101L and Scottsdale Road in Scottsdale, Arizona. See **Figure 1** for a vicinity map.

The proposed site is bound by Thompson Peak Parkway to the north, Scottsdale Road to the west, SR 101L to the south, and 73rd Street and the Scottsdale Healthcare Drive alignment to the east. Legacy Boulevard runs east-west through the site. See **Figure 2**. The existing site is undeveloped vacant land.

The proposed development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

See **Figure 2** for the proposed One Scottsdale site plan.

There are 11 proposed access points to the One Scottsdale development evaluated in this study, six along Scottsdale Road, two along 73rd Street, and three along Legacy Boulevard. See **Figure 3**.

Driveways along Scottsdale Road

Scottsdale Road and Driveway A (13) will allow for right in and right out of the site only.

Scottsdale Road and Driveway B (14) will allow for right and left turns into the site, but only allow right turns out of the site.

Scottsdale Road and Driveway C (15) will allow for right in and right out of the site only.

Scottsdale Road and Driveway J (23) will allow for right in and right out of the site only.

Scottsdale Road and Driveway K (24) will allow for right in and right out of the site only.

Scottsdale Road and Driveway L (25) will allow for right and left turns into the site, but only allow right turns out of the site.

Driveways along 73rd St

73rd Street and Driveway D (16) is a full access driveway allowing all movements into and out of the site.

73rd Street and Driveway E (17) is a full access driveway allowing all movements into and out of the site.

73rd Street is not a public roadway. Therefore, 73rd Street and Driveway D (16), and 73rd Street and Driveway E (17) were not analyzed in this report.

Driveways along Legacy Boulevard

Legacy Boulevard and Driveway F (18) will allow for right in and right out of the site only. This includes access to the proposed site north of Legacy Boulevard, as well as access to the proposed site south of Legacy Boulevard.

Legacy Boulevard and Driveway G (20) will allow for right in and right out of the site only. This includes access to the proposed site south of Legacy Boulevard.

Legacy Boulevard and Driveway H (21) is a driveway access to the existing residential development to the north of Legacy Boulevard. Since this is not an access to the proposed One Scottsdale development, it is not analyzed throughout this report.

Legacy Boulevard and Driveway I (22) is a full access driveway allowing all movements and access to the proposed site south of Legacy Boulevard.





	J2 engineering and environmental design 4649 east cotton gin loop, suite 62 phoenix, arizona 85040 phone: 602.438.2221 www.j2design.us		
	PROJECT NO.	150835	DRAWN BY SP
	DATE	MAY 2016	CHECKED BY JB

Vicinity Map

Figure 1

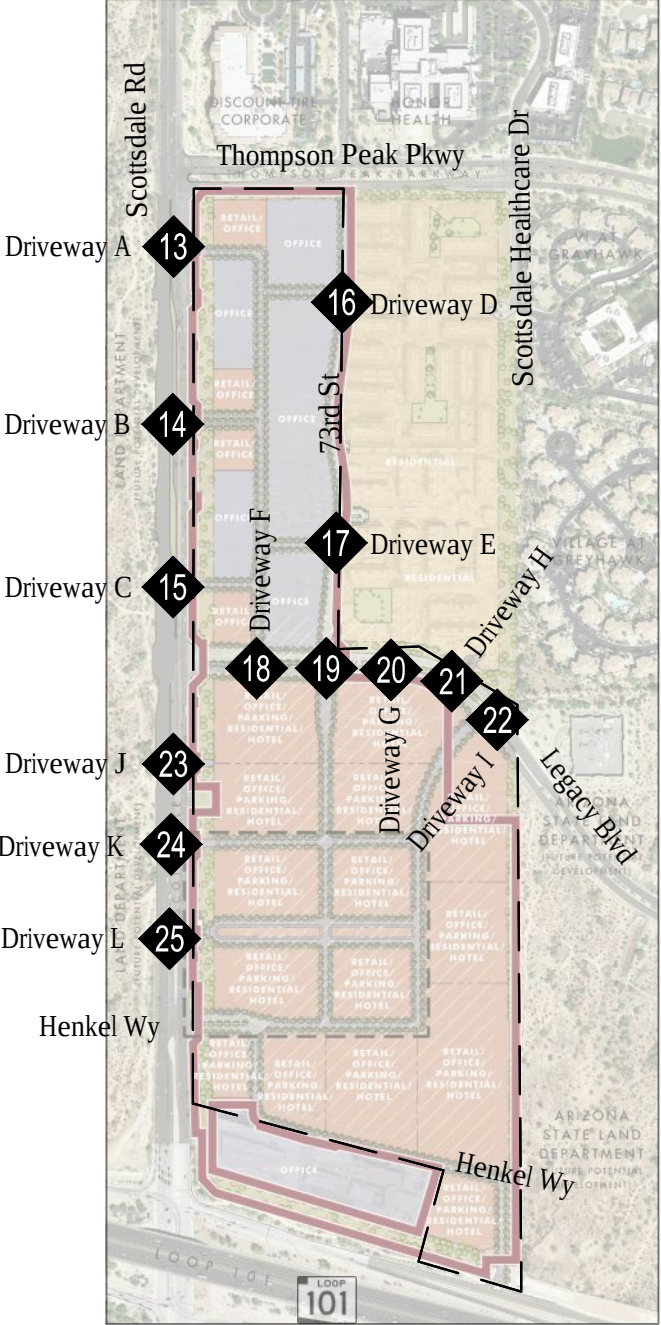


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DATE	MAY 2016	CHECKED BY	JB

Site Map

Figure 2



3. December 8, 2015 TI&MA

On December 8, 2015, a Traffic Impact and Mitigation Analysis was submitted to the City of Scottsdale. This prior study calculated and compared the anticipated trips generated by the entire proposed One Scottsdale development with the 2006 Staked 40s proposed development. See **Appendix J** for the full study.

The proposed One Scottsdale development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

As reported in the prior study, the proposed One Scottsdale development is anticipated to generate the following trips:

Table 1 - One Scottsdale Trip Generation

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
One Scottsdale	31184	15592	15592	3960	2781	1179	3961	1311	2650

In an effort to quantify the trip generation difference between the Stacked 40s and One Scottsdale developments, the original trip generation with the report had to be modified to take into consideration the changes in the proposed site. This includes the build out of the Henkel building, which did not exist in 2006. However, the Stacked 40s master plan and trip generation calculations included the parcel that the Henkel building currently sits on. Therefore, a total of 325,156 square feet of office space was removed from the Stacked 40s trip generation calculations. The former Stacked 40s development is anticipated to generate the following trips:

Table 2 - Stacked 40s Trip Generation – Modified

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stacked 40s	34812	17406	17406	2050	1509	541	3439	1338	2101

The following table shows the trip generation comparison of the former Stacked 40s development with the One Scottsdale development.



Table 3 - Trip Generation Comparison

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stacked 40s	34812	17406	17406	2050	1509	541	3439	1338	2101
One Scottsdale	31184	15592	15592	3960	2781	1179	3961	1311	2650
Difference	-3628	-1814	-1814	1910	1272	638	522	-27	549

Due to the reduction in retail uses and increase in residential and office land uses, the AM and PM peak hours are higher with the proposed One Scottsdale development. The AM peak hour is projected to generate a total of 3,960 trips with 2,781 inbound and 1,179 outbound, and the PM peak hour is projected to generate a total of 3,961 trips with 1,311 inbound and 2,650 outbound.

However, the overall weekday trips of the proposed One Scottsdale development are [10.4% less](#) than the 2006 generally accepted Stacked 40s development.

Therefore, the proposed One Scottsdale development will have less impact to the adjacent roadway network during the average weekday than the formerly approved Stacked 40s development.

4. Study Area

Sections 4.1 and 4.2 provide detailed descriptions of the roadway segments and intersections within the study area, see **Figure 3**.

4.1. Study Roadway Segments

The existing roadway segments within the study area include Scottsdale Road, 73rd Street, Scottsdale Healthcare Drive, Hayden Road, Thompson Peak Parkway, Legacy Boulevard, and SR 101L.

Scottsdale Road, within the vicinity of the study area, is a north-south roadway providing two through lanes for each direction of travel north of Henkel Way and three through lanes for each direction of travel south of Henkel Way. There is a raised median between SR 101L and just north of Henkel Way, and a two-way left turn lane north to Thompson Peak Parkway. Right and left turn lanes are provided at major intersections. The posted speed limit along this section of Scottsdale Road is 45 mph. Scottsdale Road is classified as a major arterial-urban roadway, per the City of Scottsdale Street Classification Map.

73rd Street, within the vicinity of the study area, is a north-south roadway, located approximately 600 feet east of Scottsdale Road. 73rd Street extends from Legacy Boulevard to Thompson Peak Parkway.

Scottsdale Healthcare Drive, within the vicinity of the study area, is a north-south roadway, located ¼ mile east of Scottsdale Road. It provides access to Scottsdale Healthcare medical facilities located on the north side of Thompson Peak Parkway. It extends just south of Thompson Peak Parkway, providing an access to a residential complex.

Hayden Road, within the vicinity of the study area, is a north-south roadway providing two through lanes for each direction of travel, separated by a raised median. Right and left turn lanes are provided at major intersections. The posted speed limit along this section of Hayden Road is 45 mph. Hayden Road is classified as a major arterial-urban roadway, per the City of Scottsdale Street Classification Map.

Thompson Peak Parkway, within the vicinity of the study area, is an east-west roadway, providing two through lanes for each direction of travel, separated by a raised median. Right and left turn lanes are provided at major intersections. Thompson Peak Parkway begins at Scottsdale Road and extends east of Hayden Road. The posted speed limit is 45 mph. Thompson Peak Parkway is classified as a minor arterial-suburban roadway, per the City of Scottsdale Street Classification Map.

Legacy Boulevard, within the vicinity of the study area, is an east-west roadway, located between Thompson Peak Parkway and SR 101L. Two lanes are provided for each direction of travel with a

raised median. Right and left turn lanes are provided at major intersections. Legacy Boulevard begins at Scottsdale Road and extends east to Hayden Road. There is a posted speed limit of 30 mph. Legacy Boulevard is classified as a minor arterial-urban roadway, per the City of Scottsdale Street Classification Map.

SR 101L (Pima Freeway), within the vicinity of the study area, an east-west freeway providing access to and from Scottsdale Road and Hayden Road with both eastbound and westbound on and off ramps. The SR 101L mainline provides three through lanes and a High Occupancy Vehicle (HOV) lane for each direction of travel. A westbound frontage road extends from the westbound on ramp at Hayden Road to the westbound off ramp at Scottsdale Road.

4.2. Study Intersections

Scottsdale Road and Thompson Peak Parkway (1) currently operates as a signalized t-intersection. The northbound approach has two through lanes and a dedicated right turn lane. The southbound approach has a dedicated left turn lane and two through lanes. The westbound approach has two dedicated left turn lanes and a dedicated right turn lane.

73rd Street and Thompson Peak Parkway (2) currently operates as a two way stop controlled intersection with the northbound and southbound approaches stop controlled. The northbound and southbound approaches are restricted to a single dedicated right turn lane. The eastbound approach has a dedicated left turn lane, two through lanes and a dedicated right turn lane. The westbound approach has two through lanes and a dedicated right turn lane.

Scottsdale Healthcare Drive and Thompson Peak Parkway (3) currently operates as a signalized intersection. The northbound and southbound approaches have a dedicated left turn lane and a shared through-right turn lane. The eastbound and westbound approaches have a dedicated left turn lane, two through lanes, and a dedicated right turn lane.

Scottsdale Road and Legacy Boulevard (4) currently operates as a signalized t-intersection. The northbound approach has two through lanes and a dedicated right turn lane. The southbound approach has a dedicated left turn lane and two through lanes. The westbound approach has two dedicated left turn lanes and a dedicated right turn lane.

Scottsdale Road and Henkel Way (5) currently operates as a signalized t-intersection. The northbound approach has three through lanes and a dedicated right turn lane. The southbound approach has a dedicated left turn lane and three through lanes. The westbound approach has two dedicated left turn lanes and a dedicated right turn lane.

Scottsdale Road and SR101L WB Ramp (6) currently operates as a signalized intersection. The northbound approach had two dedicated left turn lanes and three through lanes. The southbound approach has two extended left turn storage lanes, three through lanes and a dedicated right turn lane. The westbound approach has two dedicated left turn lanes, a shared through-right turn lane and a dedicated right turn lane.



Scottsdale Road and SR 101L EB Ramp (7) currently operates as a signalized intersection. The northbound approach has two extended left turn storage lanes, three through lanes and a dedicated right turn lane. The southbound approach has two dedicated left turn lanes and three through lanes. The eastbound approach has two dedicated left turn lanes, a shared through-right turn lane and a dedicated right turn lane.

Henkel Way and SR 101L Frontage Road (8) currently operates as a one-way yield controlled intersection, with the southbound approach yield controlled. The southbound approach provides a dedicated right turn lane. The westbound approach provides one through lane and a dedicated right turn lane.

Hayden Road and Thompson Peak Parkway (9) currently operates as a signalized intersection. All four approaches have a dedicated left turn lane, two through lanes and a dedicated right turn lane.

Hayden Road and Legacy Boulevard (10) currently operates as a signalized t-intersection. The northbound approach has a dedicated left turn lane and two through lanes. The southbound approach has two through lanes and a dedicated right turn lane. The eastbound approach has a dedicated left turn lane and a dedicated right turn lane.

Hayden Road and SR101L WB Ramp (11) currently operates as a signalized intersection. The northbound approach has a dedicated left turn lane and two through lanes. The southbound approach has two extended left turn storage lanes, two through lanes and a dedicated right turn lane. The westbound approach has a dedicated left turn lane, a shared left-through lane, a dedicated through lane and a dedicated right turn lane.

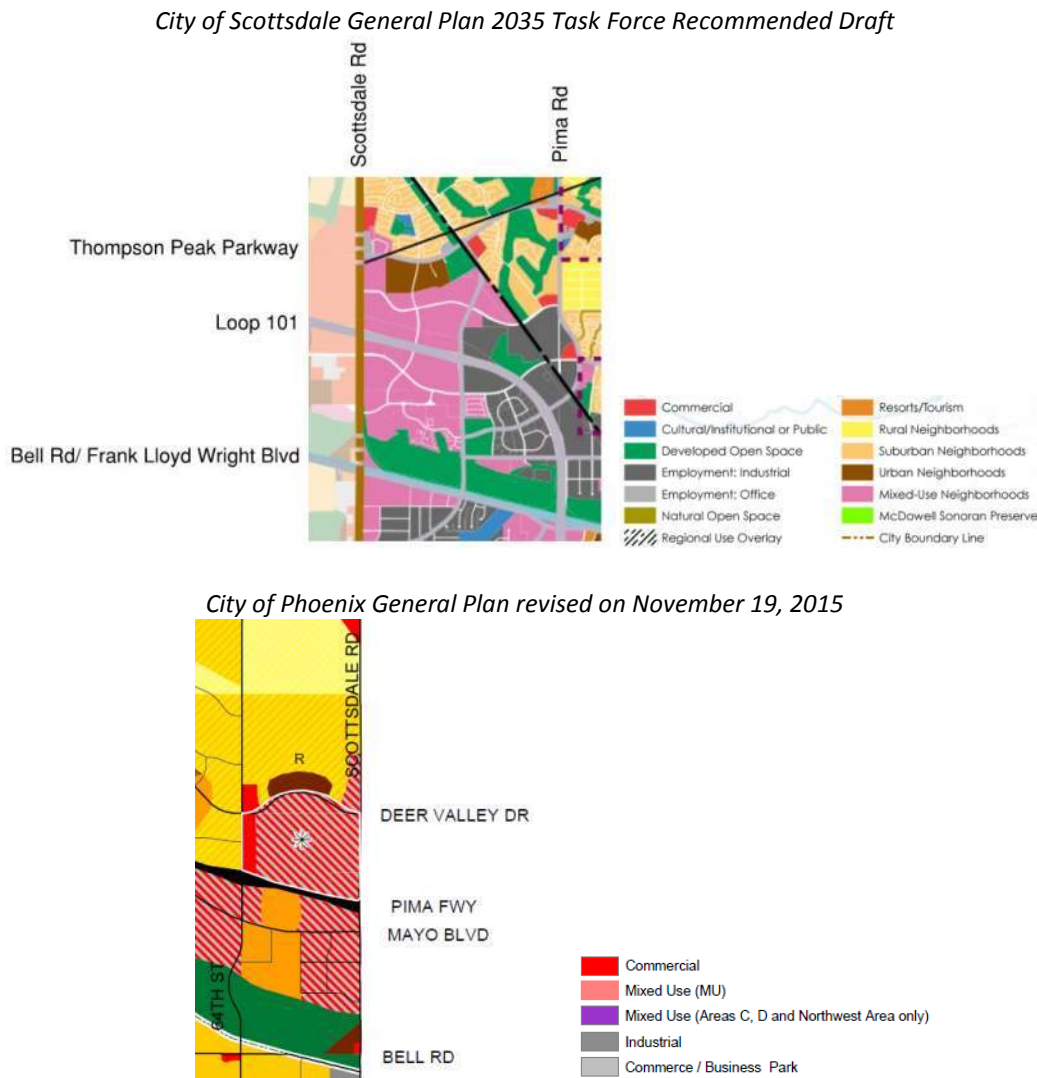
Hayden Road and SR101L EB Ramp (12) currently operates as a signalized intersection. The northbound approach has an extended left turn storage lane, two through lanes and a dedicated right turn lane. The southbound approach has two dedicated left turn lanes and two through lanes. The eastbound approach has a dedicated left turn lane, a shared left-right turn lane and a dedicated right turn lane.

73rd Street and Legacy Boulevard (19) currently operates as a stop controlled t-intersection, with the southbound approach stop controlled. The southbound approach provides a dedicated left turn and a dedicated right turn lane. The eastbound approach provides a dedicated left turn lane, two through lanes and a dedicated right turn lane. The westbound approach provides a dedicated left turn lane, a through lane and a shared through-right turn lane.

4.3. Land Use

There is a mix of land uses surrounding the study area. The top image in **Figure 4** shows a clip of the Future Land Use map from the City of Scottsdale General Plan 2035 Task Force Recommended Draft for the land uses east of Scottsdale Road. The bottom image in **Figure 4** shows a clip of the Future Land Use map from the City of Phoenix General Plan revised on November 19, 2015 for land uses west of Scottsdale Road.

Figure 4 – Future Land Use



The land uses within and surrounding the study area includes:

- Mixed-Use Neighborhoods
- Urban Neighborhoods
- Commercial
- Commerce/Business Park

4.4. Site Accessibility

The surrounding transportation system includes the typical “grid” roadway network common to the Phoenix metropolitan area with arterial roadways running both north–south and east–west at one mile intervals.

SR 101L is an ADOT owned freeway that runs east–west on the southern boundary of the study area. The posted speed limit is 65 mph, with on– and off–ramps at arterial roadways including Hayden Road and Scottsdale Road. SR 101L continues west into the northern Phoenix metropolitan area where it intersects with State Route 51 and Interstate 17. SR 101L turns south near Hayden Road, eventually intersecting with State Route Loop 202 (SR 202L) and US Route 60.

5. Existing Conditions

5.1. Existing Traffic Counts

A local traffic data collection firm, Field Data Services of Arizona, Inc was utilized to collect traffic counts. See **Appendix A** for detailed count data. Turning movement counts were obtained at twelve (12) intersections.

On Wednesday, November 18, 2015 from 7:00 to 9:00 am and from 4:00 to 6:00 pm, traffic counts were obtained at the following intersections:

- Scottsdale Road and Thompson Peak Parkway (1)
- 73rd Street and Thompson Peak Parkway (2)
- Scottsdale Healthcare Drive and Thompson Peak Parkway (3)
- Scottsdale Road and Legacy Boulevard (4)
- Scottsdale Road and Henkel Way (5)
- Scottsdale Road and SR101L WB Ramp (6)
- Scottsdale Road and SR 101L EB Ramp (7)
- Henkel Way and SR 101L Frontage Road (8)
- 73rd Street and Legacy Boulevard (19)

On Wednesday, February 24, 2016 from 7:00 to 9:00 am and 4:00 to 6:00 pm, traffic counts were obtained at the following intersections:

- Hayden Road and Thompson Peak Parkway (9)
- Hayden Road and Legacy Boulevard (10)
- Hayden Road and SR 101L WB Ramp (11)
- Hayden Road and SR 101L EB Ramp (12)

The highest one hour turning movement count within each time period were adjusted using the City of Scottsdale's monthly adjustment factors provided on the 2014 average daily traffic volumes figure. See **Appendix B**. See **Figure 5** for the AM and PM peak hour existing traffic volumes.

5.2. Existing Capacity Analysis

The capacity and level of service for the study area intersections were evaluated using the methodology presented in the *2010 Highway Capacity Manual*. Traffic analysis software, Vistro Version 3, was used to perform the analyses using the existing signal timing provided by the City of Scottsdale. See **Appendix C** for the existing signal timing.

The results of the capacity analyses reveal the following locations operate at an existing level of service (LOS) E or F:

Scottsdale Road and Thompson Peak Parkway (1) – Signalized

- NB through PM peak hour operates at LOS F
- NB right PM peak hour operates at LOS E
- SB left AM peak hour operates at LOS E
- WB left AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS E and LOS F, respectively

Scottsdale Healthcare Drive and Thompson Peak Parkway (3) – Signalized

- NB left AM and PM peak hours operate at LOS E and LOS F, respectively
- SB left AM and PM peak hours operate at LOS E and LOS F, respectively
- EB left PM peak hour operates at LOS E
- WB left PM peak hour operates at LOS F
- Overall intersection PM peak hour operates at LOS F

Scottsdale Road and Legacy Boulevard (4) – Signalized

- WB left AM and PM peak hours operate at LOS E

Scottsdale Road and Henkel Way (5) – Signalized

- SB left AM and PM peak hours operate at LOS E and LOS F, respectively
- WB left PM peak hour operates at LOS F

Scottsdale Road and SR 101L WB Ramp (6) – Signalized

- NB left AM and PM peak hours operate at LOS E and LOS F, respectively
- NB through PM peak hour operate at LOS F
- SB right AM peak hour operates at LOS F
- WB left AM and PM peak hours operate at LOS F
- WB through AM and PM peak hours operate at LOS F
- WB right AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS E and LOS F, respectively

Scottsdale Road and SR 101L EB Ramp (7) – Signalized

- SB left AM peak hour operates at LOS F

Hayden Road and Thompson Peak Parkway (9) – Signalized

- NB left PM peak hour operates at LOS E
- SB left PM peak hour operates at LOS E
- EB left PM peak hour operates at LOS E
- EB right PM peak hour operate at LOS E
- WB through PM peak hour operates at LOS E
- WB right PM peak hour operate at LOS E

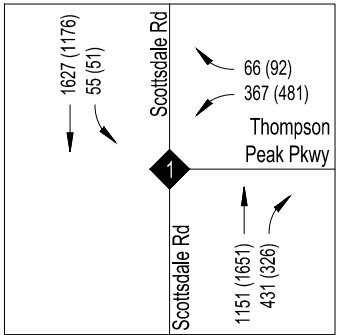
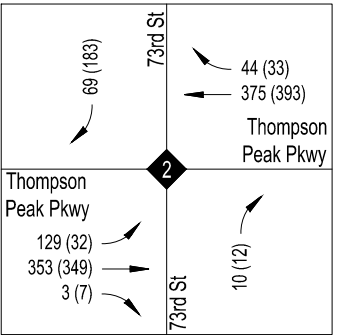
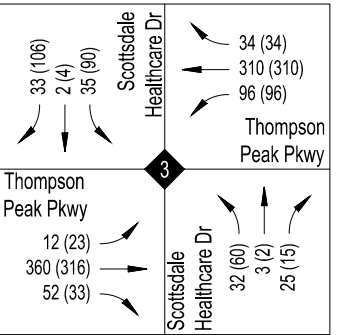
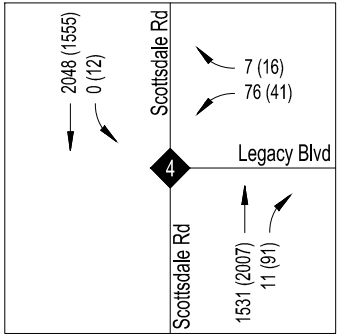
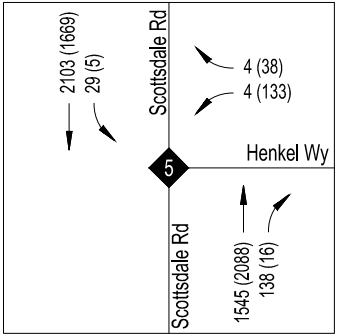
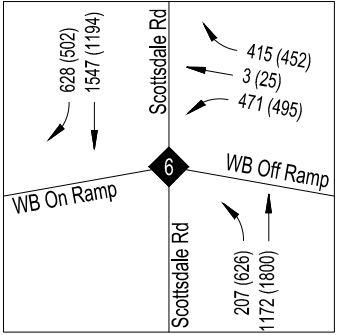
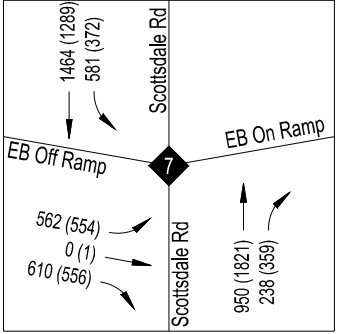
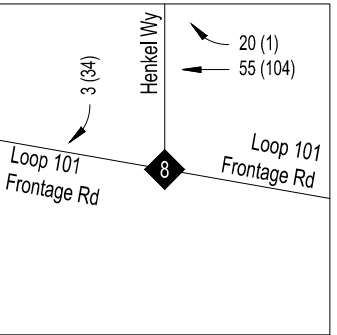
Hayden Road and SR 101L WB Ramp (11) – Signalized

- NB left AM and PM peak hours operate at LOS F
- WB right AM and PM peak hours operate at LOS F
- Overall intersection AM and PM peak hours operate at LOS F

Hayden Road and SR 101L EB Ramp (12) – Signalized

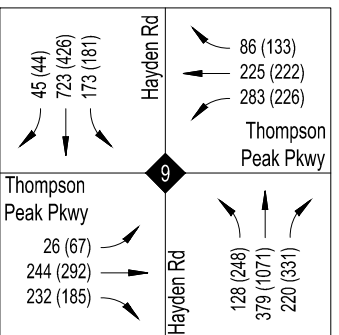
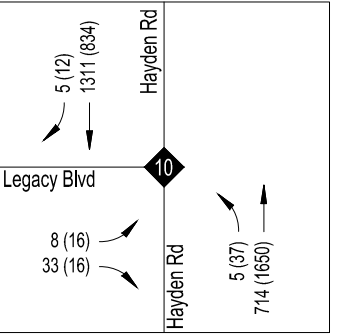
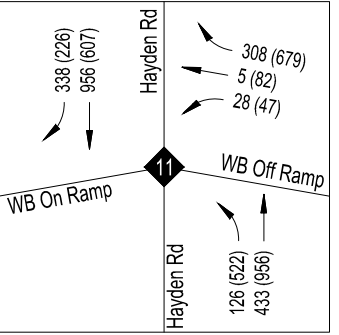
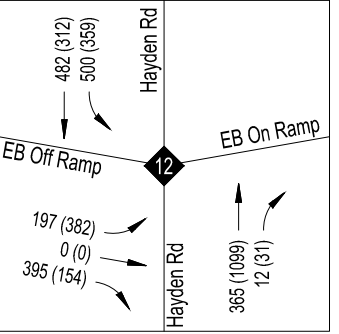
- SB left AM and PM peak hours operate at LOS F and LOS E, respectively
- EB left PM peak hour operates at LOS F
- EB right AM peak hour operates at LOS E
- Overall intersection AM and PM peak hours operate at LOS F

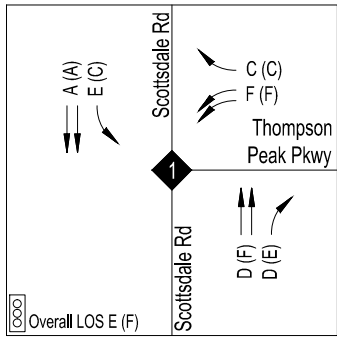
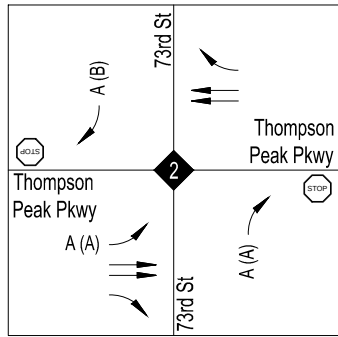
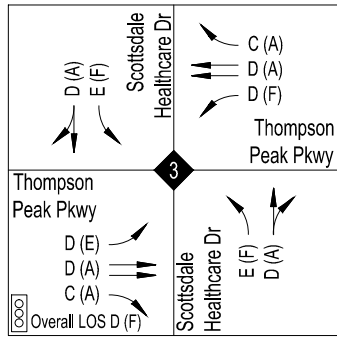
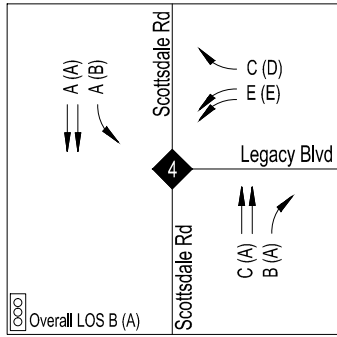
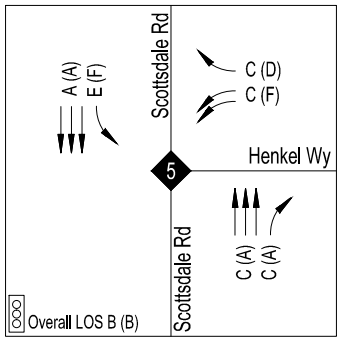
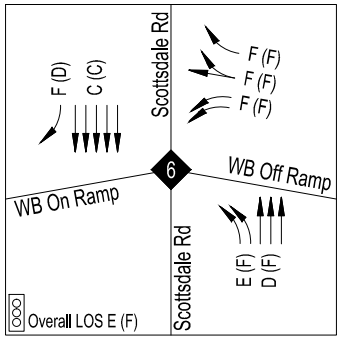
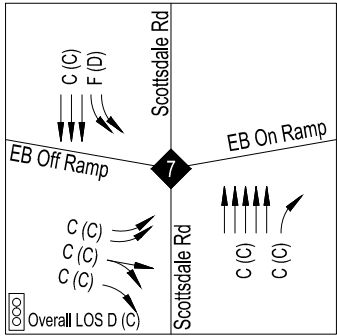
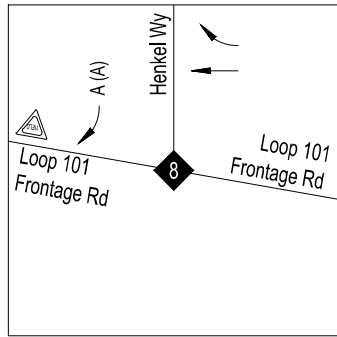
See **Figure 6** for the AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in **Appendix D** and **Appendix E**.



Legend

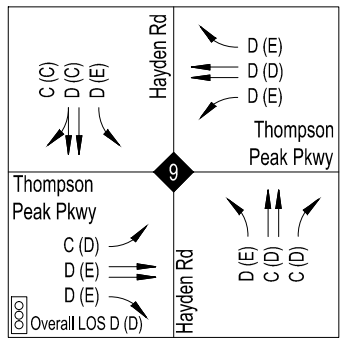
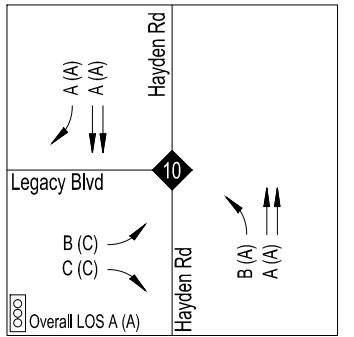
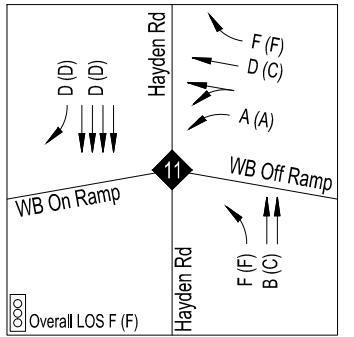
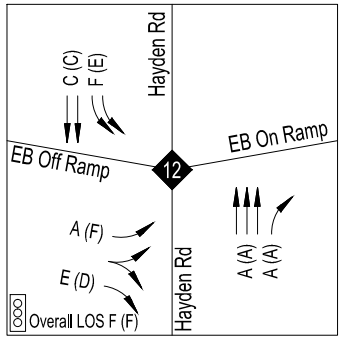
- Intersection
- AM (PM) Existing Peak Hour Traffic Volumes
- XXXXX Average Daily Traffic Volumes





Legend

- Intersection
- AM (PM) Existing Peak Hour Capacity Analysis



6. Projected Traffic

6.1. Trip Generation

The traffic volumes generated by the proposed One Scottsdale development are determined from the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 9th Edition*. The ITE rates are based on studies that measured the trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is considered to be the standard for the transportation engineering profession.

The proposed development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

Internal Capture

Given the mix-use nature of the proposed development which includes retail, office, restaurant, hotel and residential components, it is expected that several of the estimated trips will be internal to the development. Based on the NCHRP Report 684- Enhancing Internal Trip Estimation of Mixed-Use Developments, the internal capture rates for trip origins and trip destinations within a multi-use development were applied for AM and PM hours. Additionally, daily internal capture rates for trip origins within a multi-use development were obtained from the *Trip Generation Handbook, 2nd Edition* and were applied to the daily traffic volumes.

Pass-by Trips

Pass-by trips are intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. These trips are not considered new trips generated by the proposed development. Pass-by rates were applied to the AM and PM peak hour land uses where available. These rates are based on data provided in the *Trip Generation Handbook, 2nd Edition*.



6.1.1. Year 2020 Trip Generation

The 5 Year (Year 2020) trip generation includes the build out of the following land uses:

- 145,405 square feet of Retail
- 446,384 square feet of Office
- 48,500 square feet of Restaurant
- 400 room Hotel
- 678 dwelling units of Multi-Family Residential

Table 4 below shows the Year 2020 trip generation calculation, which incorporates both internal capture and pass-by trips. Detailed trip generation calculations can be found in **Appendix F**.

Table 4 – Year 2020 Trip Generation

Land Use	AM Peak Hour			PM Peak Hour			Weekday		
	Total	In	Out	Total	In	Out	Total	In	Out
Retail	169	105	64	510	245	265	5112	2526	2586
Office	700	616	84	634	108	526	3532	1869	1663
Quality Restaurant	23	19	4	120	80	40	1091	589	502
Hospitality - All Suite Hotel	152	83	69	98	44	54	1727	829	898
Residential	314	59	254	204	134	70	2928	1406	1522
TOTAL	1358	882	476	1566	611	955	14389	7219	7170

6.1.2. Year 2025 Trip Generation

The 10 Year (Year 2025) trip generation includes the build out of the following land uses:

- 218,269 square feet of Retail
- 1,216,267 square feet of Office
- 92,000 square feet of Restaurant
- 400 room Hotel
- 1,078 dwelling units of Multi-Family Residential

Table 5 below shows the Year 2025 trip generation calculation, which incorporates both internal capture and pass-by trips. Detailed trip generation calculations can be found in **Appendix F**.

Table 5 – Year 2025 Trip Generation

Land Use	AM Peak Hour			PM Peak Hour			Weekday		
	Total	In	Out	Total	In	Out	Total	In	Out
Retail	201	125	76	590	283	307	6377	3174	3203
Office	1577	1388	189	1452	247	1205	8530	4425	4105
Quality Restaurant	47	38	9	226	151	75	3070	1576	1494
Hospitality - All Suite Hotel	151	83	69	98	44	54	1701	810	891
Residential	468	88	380	316	208	108	4585	2183	2402
TOTAL	2444	1721	723	2682	934	1749	24264	12168	12096

6.1.3. Build Out Trip Generation

The trip generation for the build out of the proposed One Scottsdale development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

Table 6 below shows trip generation calculation for the build out of the proposed One Scottsdale development, which incorporates both internal capture and pass-by trips. Detailed trip generation calculations can be found in **Appendix F**.

As with any long range forecasting, there is a level of uncertainty predicting and estimating future traffic volumes, surrounding future developments, and potential roadway network improvements. All of which affect future traffic volumes and traffic pattern shifts. Therefore, a detail capacity analysis has been performed for Year 2020 (5 year) and Year 2025 (10 year). However, a detailed traffic analysis has not been completed for the full build out. It is recommended that when the Year 2020 and Year 2025 development is built out, or when the additional build out development is under consideration, or when it is deemed appropriate, a full build traffic analysis be completed.

Table 6 – Build Out Trip Generation

	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
One Scottsdale	31184	15592	15592	3960	2781	1179	3961	1311	2650

6.2. Trip Distribution

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the proposed development. The trip distribution for the proposed One Scottsdale is based on the distribution of the existing traffic. The trip assignment to the site driveways was generally based on proximity of the specific land use, origin and destination, and ease and probability of use.

6.2.1. Year 2020 Trip Distribution

The roadway network for the Year 2020 trip distribution is assumed to be identical to the existing roadway network.

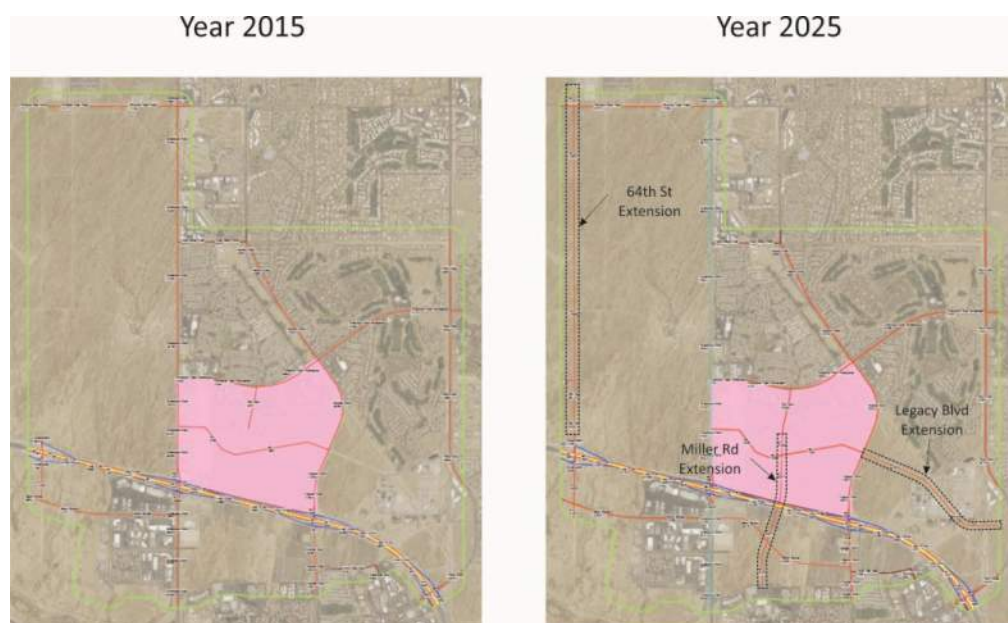
The Year 2020 trip distribution is shown in **Figure 7**.

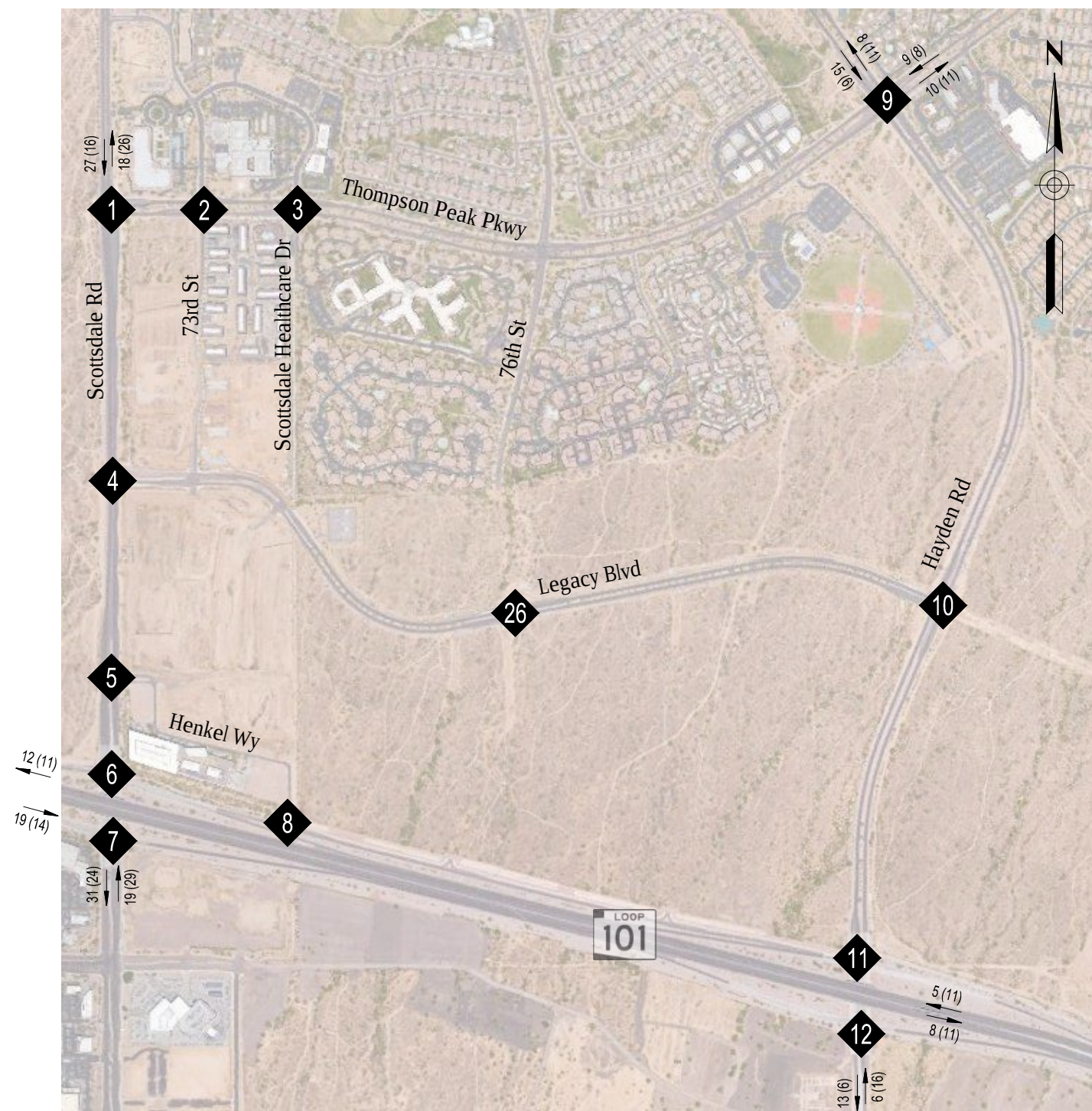
6.2.2. Year 2025 Trip Distribution

Based on the model from the Maricopa Association of Governments, the Year 2025 roadway network includes:

- Extension of 64th Street from SR 101L north to Pinnacle Peak Road.
- Extension of the Miller Road alignment Princess Boulevard to tie into the existing alignment just south of Thompson Peak Parkway
- Extension of Legacy Boulevard from Hayden Road to Pima Road.

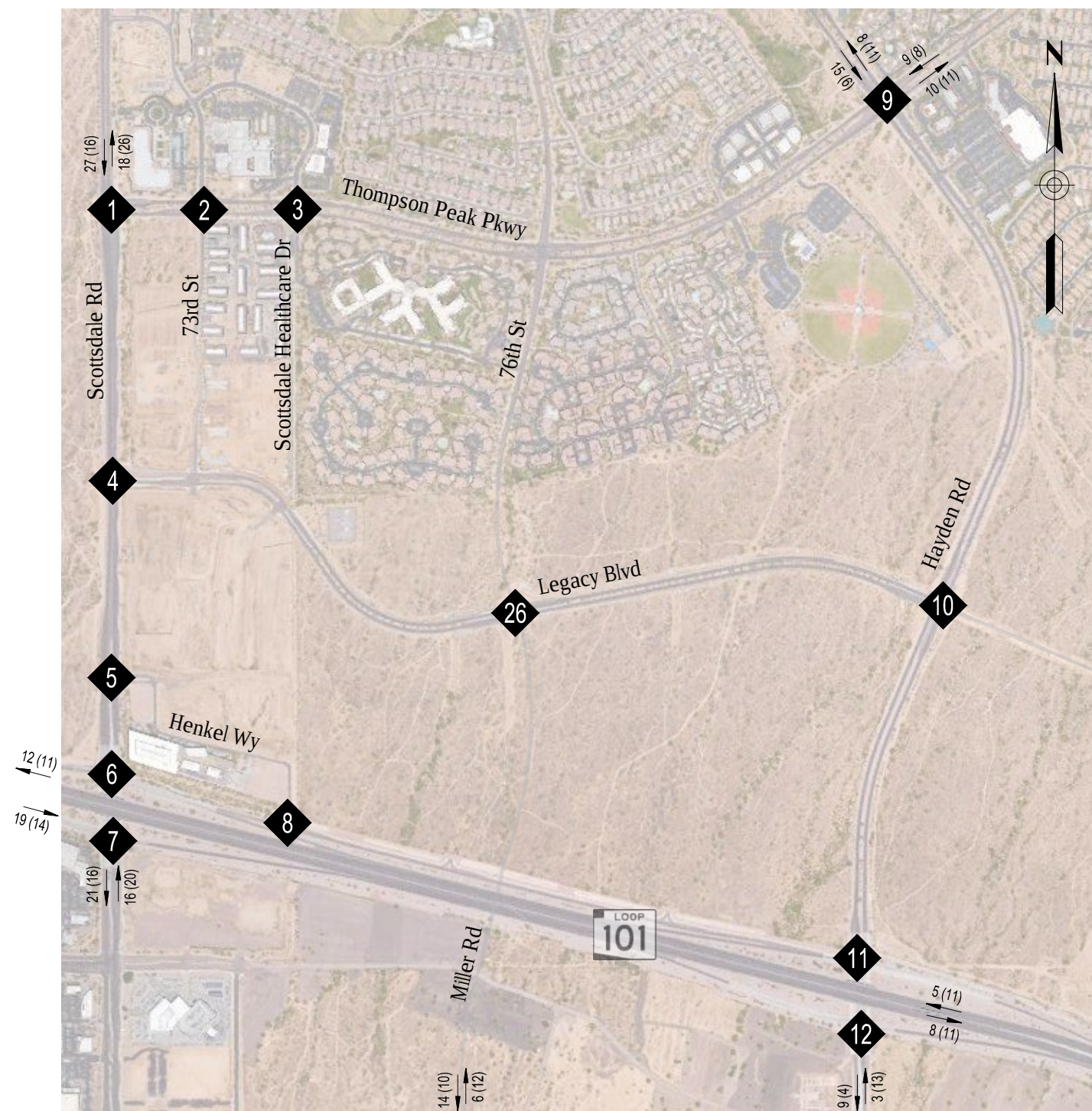
See **Appendix G** for a closer look at the figures below. The Year 2025 trip distribution is shown in **Figure 8**.





Legend

AM (PM) 2020 Trip Distribution Percentage



Legend

AM (PM) 2025 Trip Distribution Percentage

7. Year 2020 – 5 Year

7.1. Year 2020 Site Traffic

Using the trip distribution as shown in **Figure 7**, the Year 2020 site generated trips (**Table 4**) were assigned to the study intersections and driveways. The Year 2020 Site Traffic Volumes are shown in **Figure 9** and **Figure 10**.

7.2. Year 2020 Background Traffic

The existing and Year 2025 models were obtained from the Maricopa Association of Governments. The surrounding roadway network showed less than a 1% growth rate over the 10 year period. As a conservative estimate, a 0.1% annual growth rate was applied to the existing traffic volumes and was used as the 2020 background traffic volumes. The Year 2020 Background Traffic Volumes are shown in **Figure 11** and **Figure 12**.

7.3. Year 2020 Total Traffic Volumes

When the site traffic and are added to the 2020 background traffic volumes, the result is the 2020 total traffic volumes. The Year 2020 Total Traffic Volumes are shown in **Figure 13** and **Figure 14**.

7.4. Year 2020 Capacity Analysis

The capacity and level of service for the signalized study area intersections were evaluated using the methodology presented in the 2010 Highway Capacity Manual, and the stop controlled driveways were evaluated using the methodology presented in the 2000 Highway Capacity Manual. Traffic analysis software, Synchro Version 9, was used to perform the analyses using the 2020 traffic volumes, and optimizing the signal timing. With the exception of the driveways for the proposed development, the lane geometry remained the same as the existing lane geometry. The results of the capacity analyses reveal the following locations with an existing level of service (LOS) E or F:

Scottsdale Road and Thompson Peak Parkway (1) – Signalized

- SB left PM peak hour operates at LOS E
- WB left PM peak hour operates at LOS E
- WB right PM peak hour operates at LOS E

Scottsdale Road and Legacy Boulevard (4) – Signalized

- WB left AM and PM peak hours operate at LOS E

Scottsdale Road and Henkel Way (5) – Signalized

- SB left PM peak hour operates at LOS E
- WB left AM and PM peak hours operate at LOS E
- WB right AM and PM peak hours operate at LOS E

Scottsdale Road and SR 101L WB Ramp (6) – Signalized

- WB left PM peak hour operates at LOS F
- WB through PM peak hour operates at LOS F
- WB right PM peak hour operates at LOS E

Scottsdale Road and SR 101L EB Ramp (7) – Signalized

- NB through AM and PM peak hours operate at LOS E and LOS F, respectively
- EB left PM peak hour operates at LOS F

Hayden Road and Thompson Peak Parkway (9) – Signalized

- EB left PM peak hour operates at LOS E
- EB right AM peak hour operates at LOS E
- WB left AM and PM peak hours operate at LOS F and LOS E, respectively
- WB right PM peak hour operates at LOS E
- Overall intersection AM peak hour operates at LOS E

Hayden Road and SR 101L WB Ramp (11) – Signalized

- NB left AM and PM peak hours operate at LOS F
- Overall intersection PM peak hour operates at LOS F

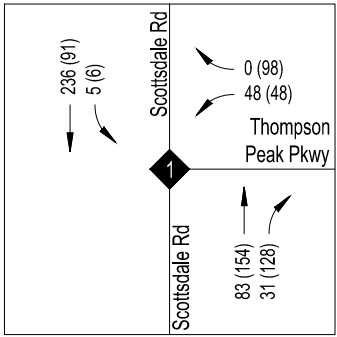
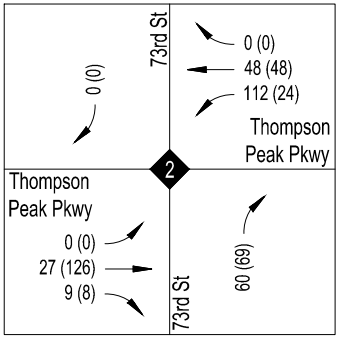
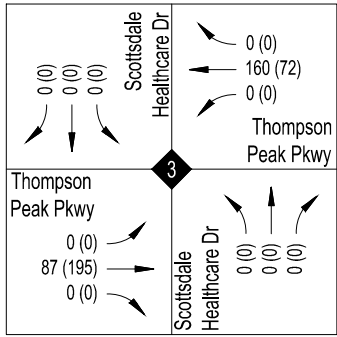
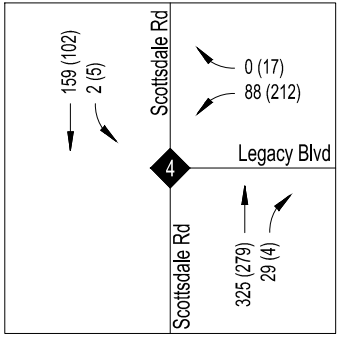
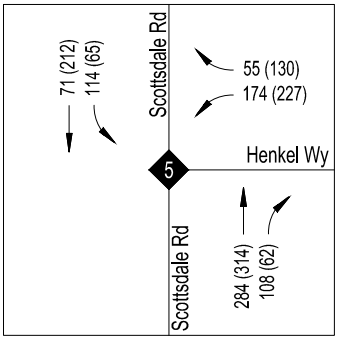
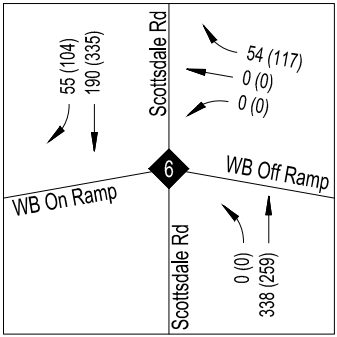
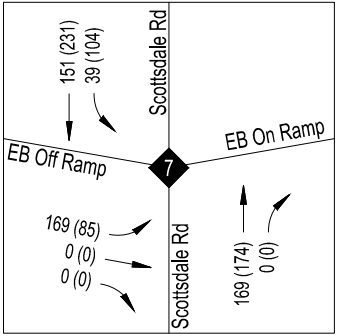
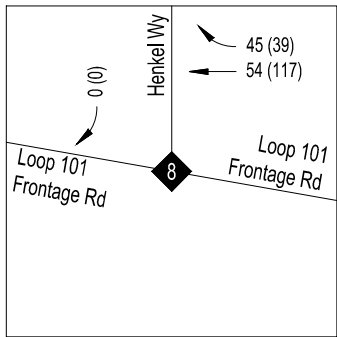
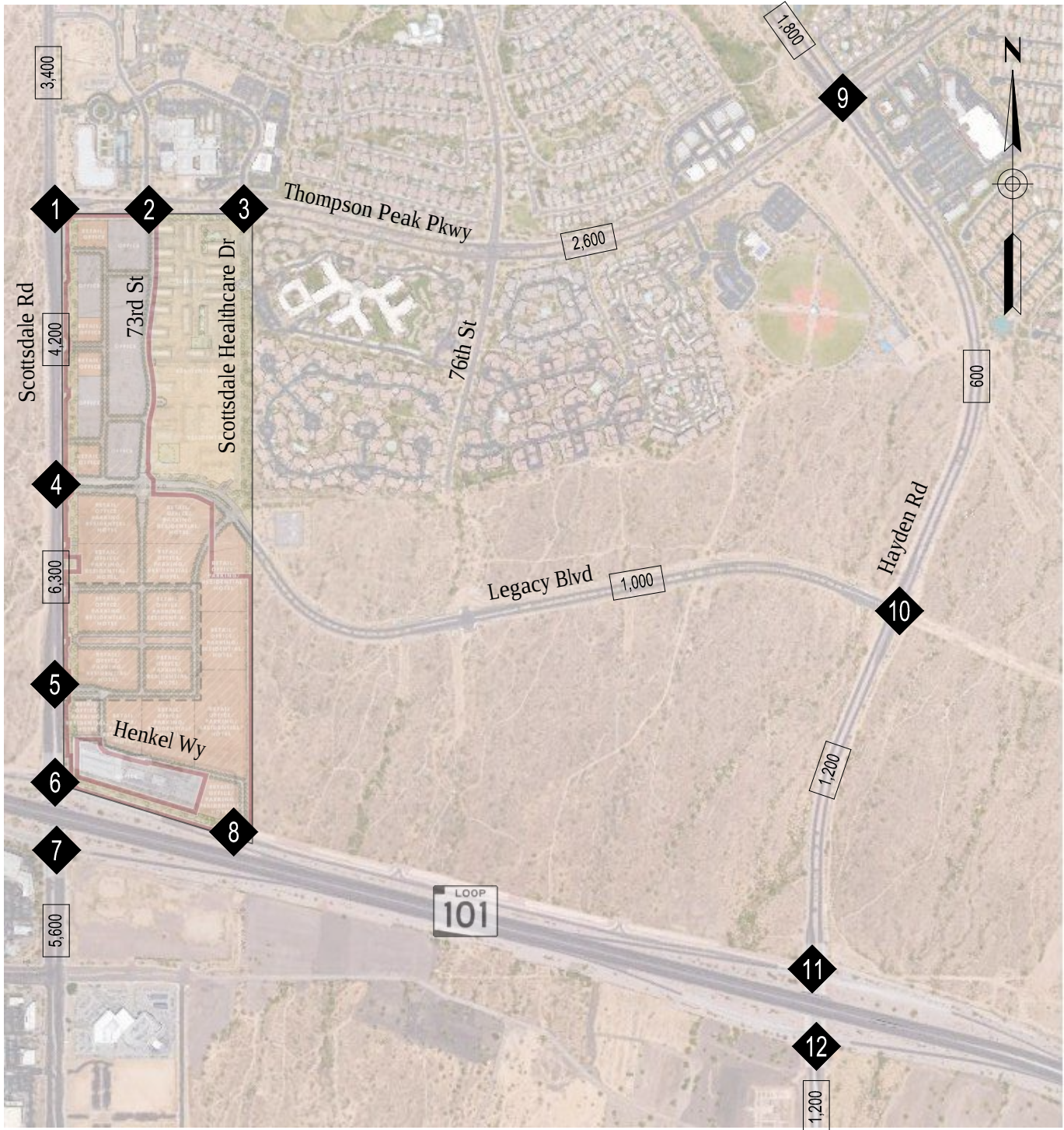
Hayden Road and SR 101L EB Ramp (12) – Signalized

- NB through PM peak hour operates at LOS F
- EB left AM and PM peak hours operate at LOS E
- Overall intersection PM peak hour operates at LOS F

See **Figure 15** and **Figure 16** for the AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in **Appendix H**. In general, the signalized study intersections shows improved levels of services when compared to the existing conditions. The signal cycle lengths were held, while modifying the splits to accommodate the change in traffic patterns due to the proposed development. The study driveways operate at an acceptable level of service of LOS D or better, with the exception of Scottsdale Road and Driveway A, where the westbound right turn movement operates at a LOS E during the PM peak hour, and Scottsdale Road and Driveway L, where the southbound left turn movement operates at a LOS F during the PM peak hour.

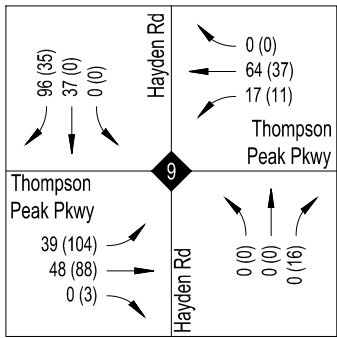
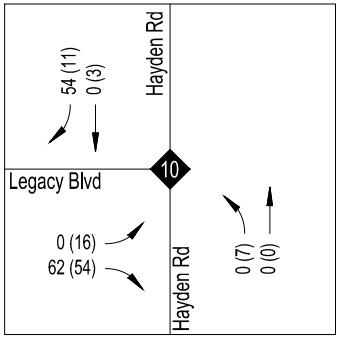
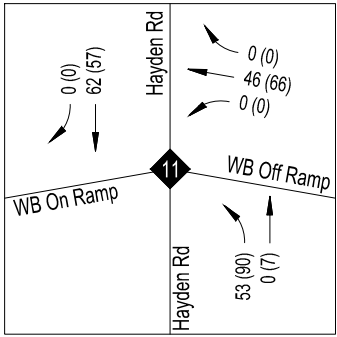
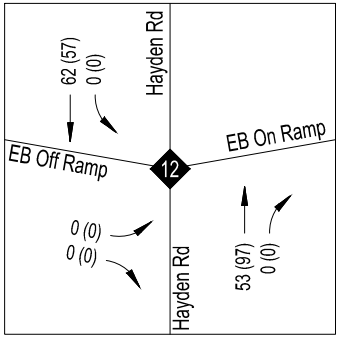
7.5. Year 2020 Improvements and Considerations

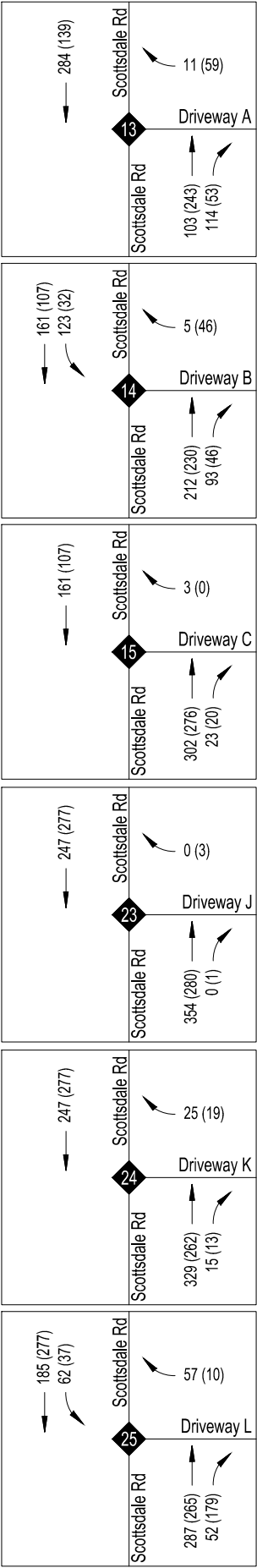
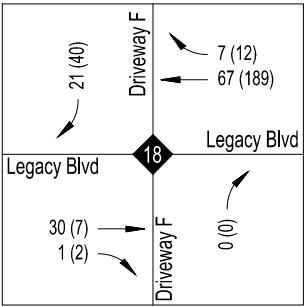
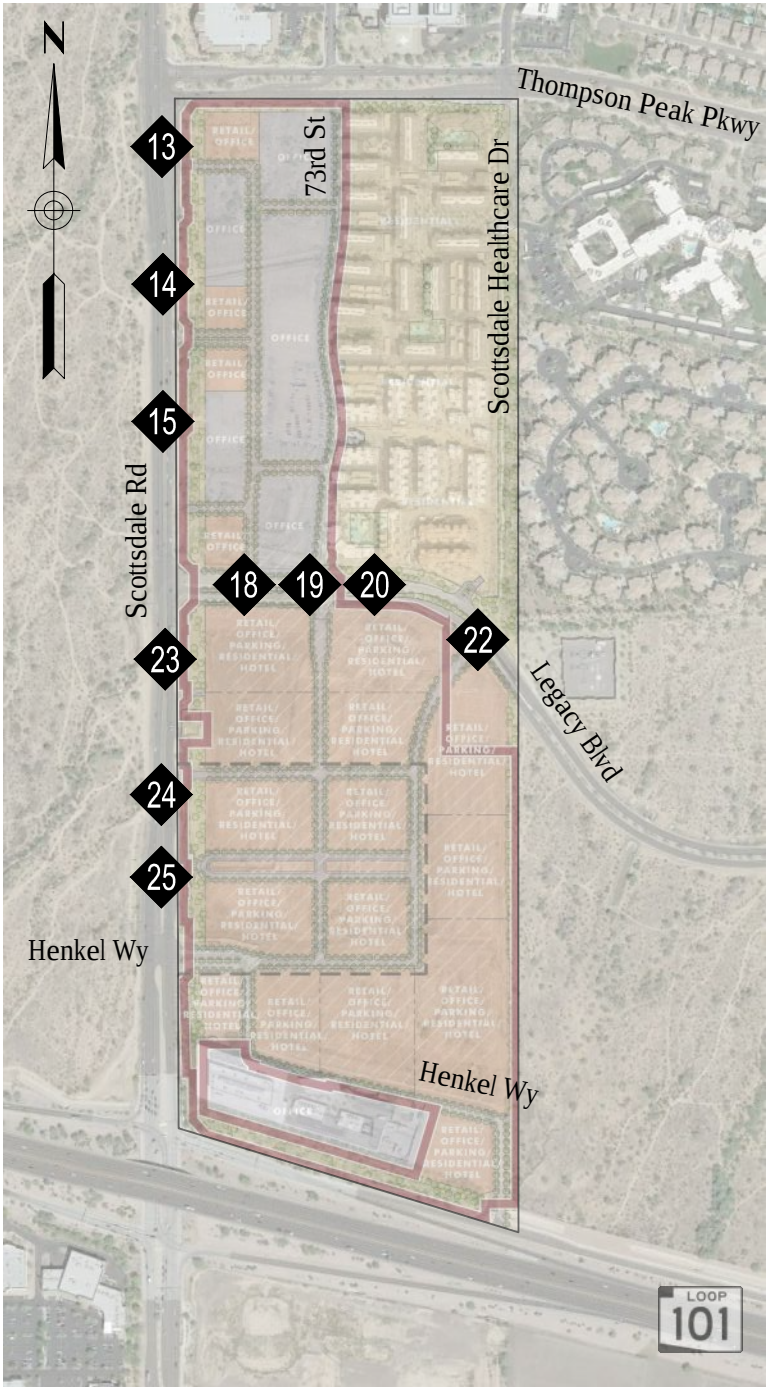
Evaluating the 2020 ADTs on Scottsdale Road, an additional northbound through lane between Henkel Way and Thompson Peak Parkway, providing three through lanes, is recommended for Year 2020, refer to **Section 8.5**. The majority of these improvements can be made with pavement marking and signing modifications.



Legend

- Intersection
- AM (PM) 2020 Site Traffic Volumes
- XXXXX Average Daily Traffic Volumes

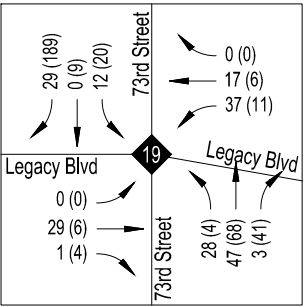
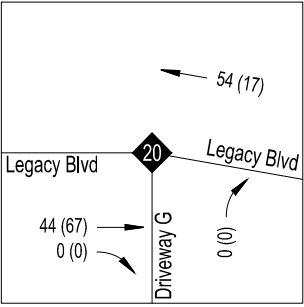
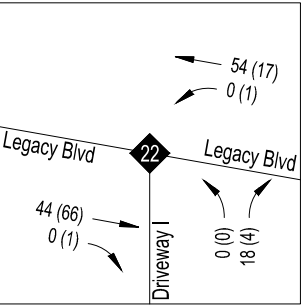


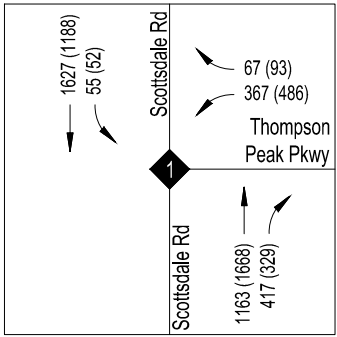
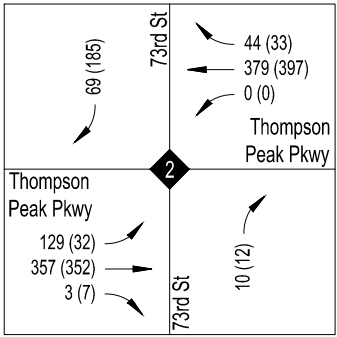
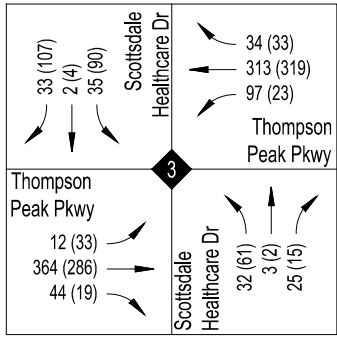
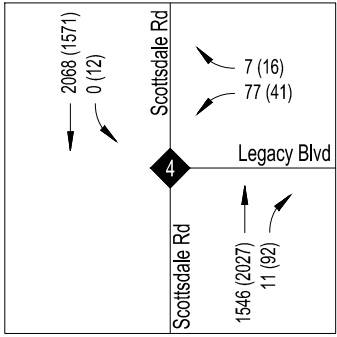
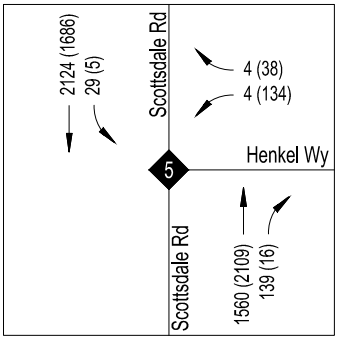
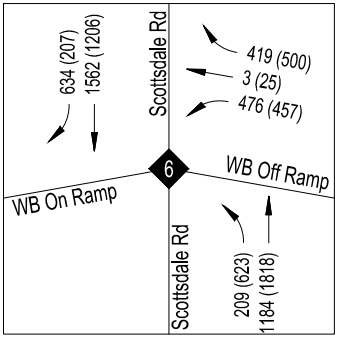
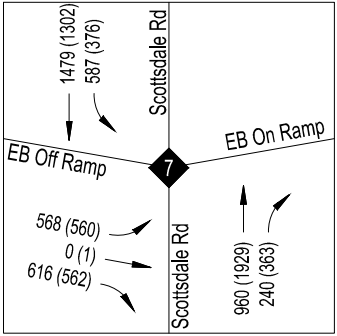
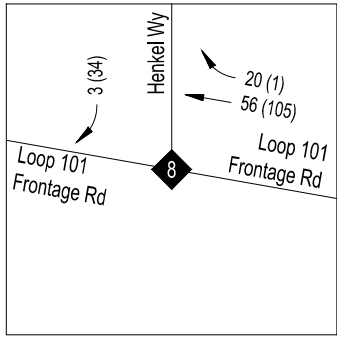
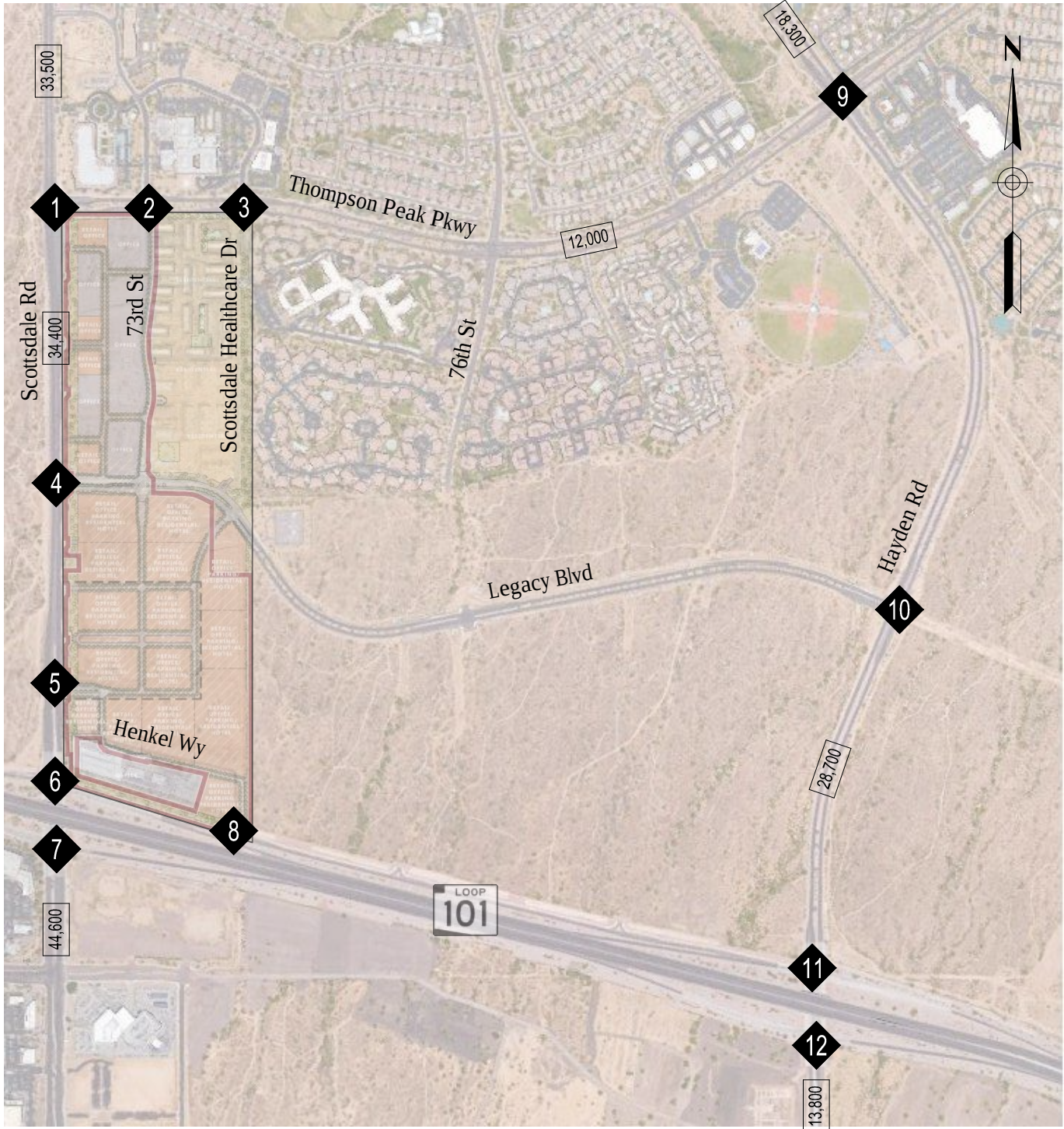


Legend

◆ Driveway

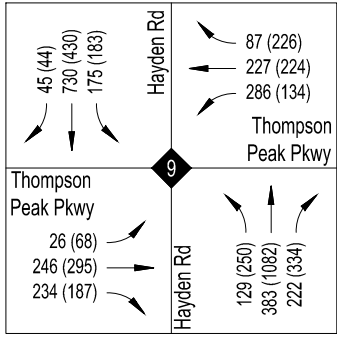
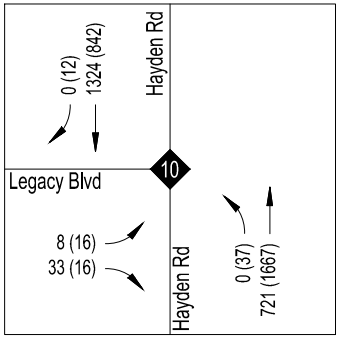
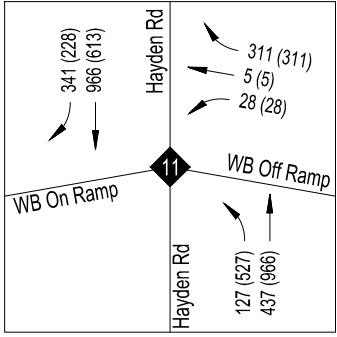
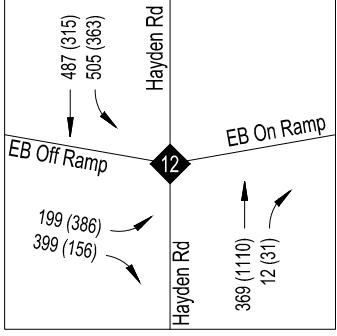
AM (PM) 2020 Site Traffic Volumes

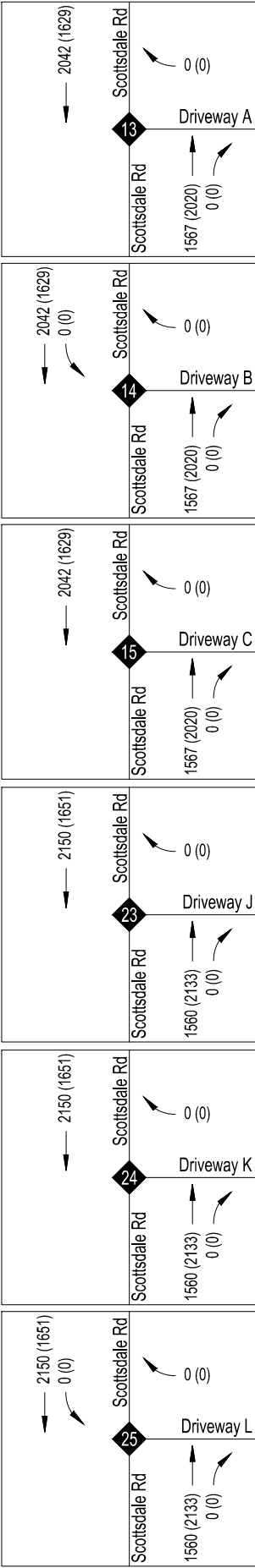
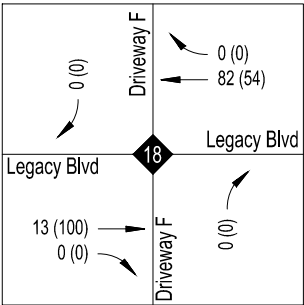
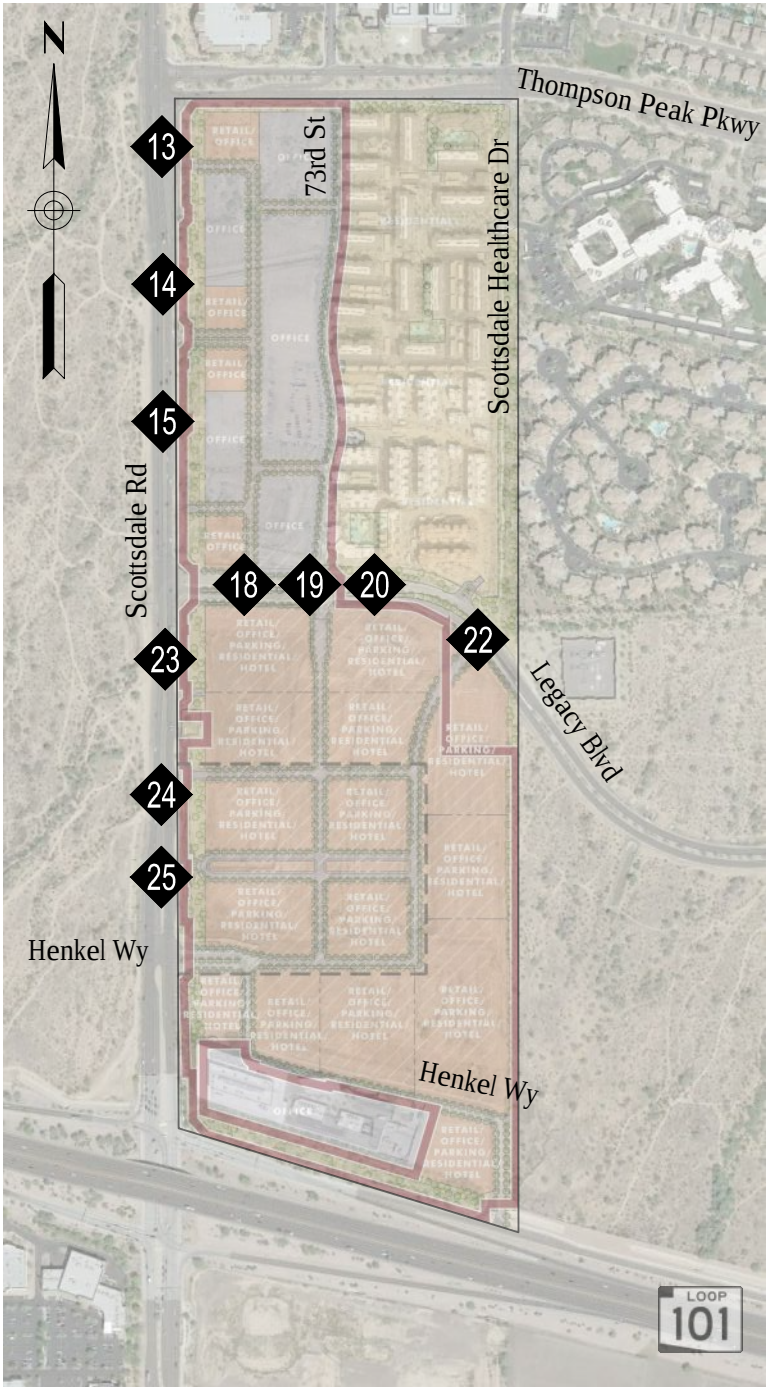




Legend

- Intersection
- AM (PM) 2020 Background Traffic Volumes
- XXXXXX Average Daily Traffic Volumes

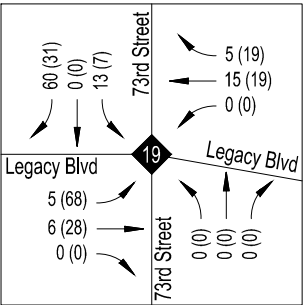
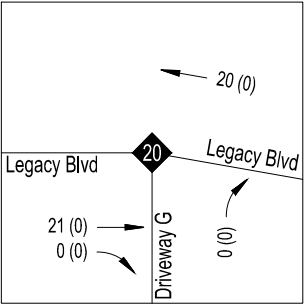
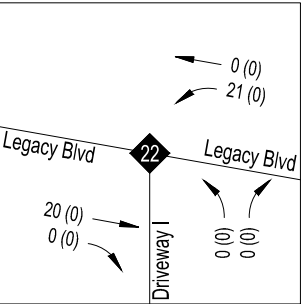


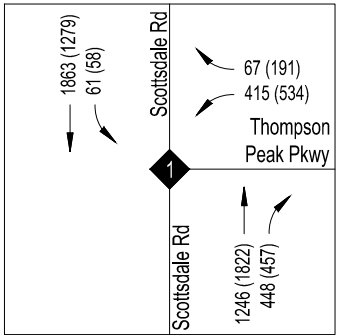
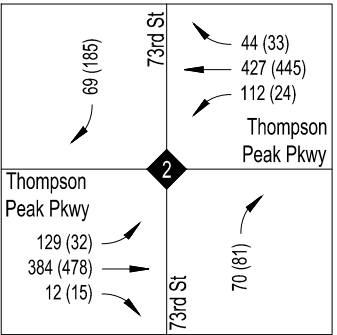
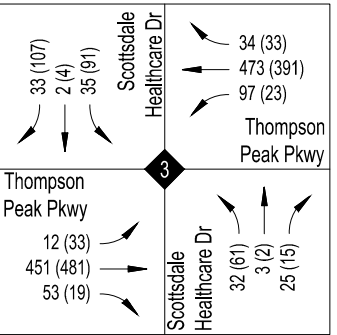
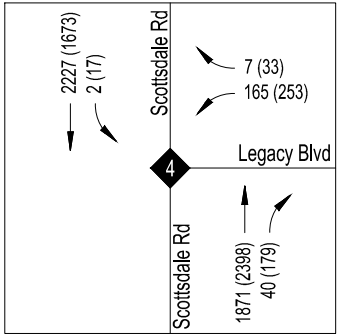
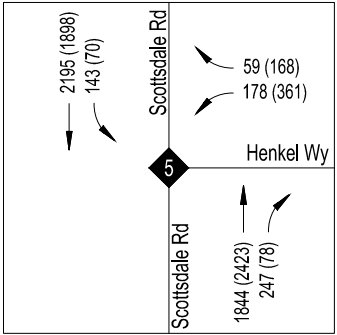
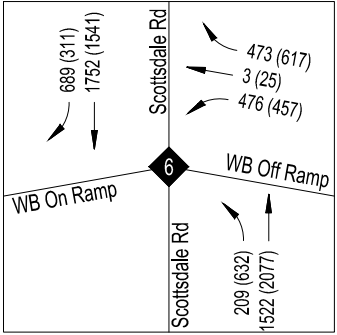
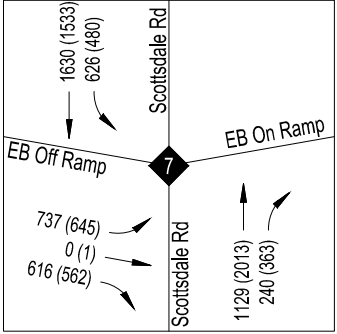
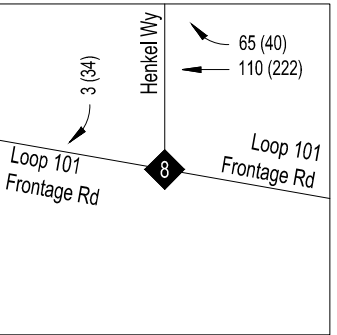
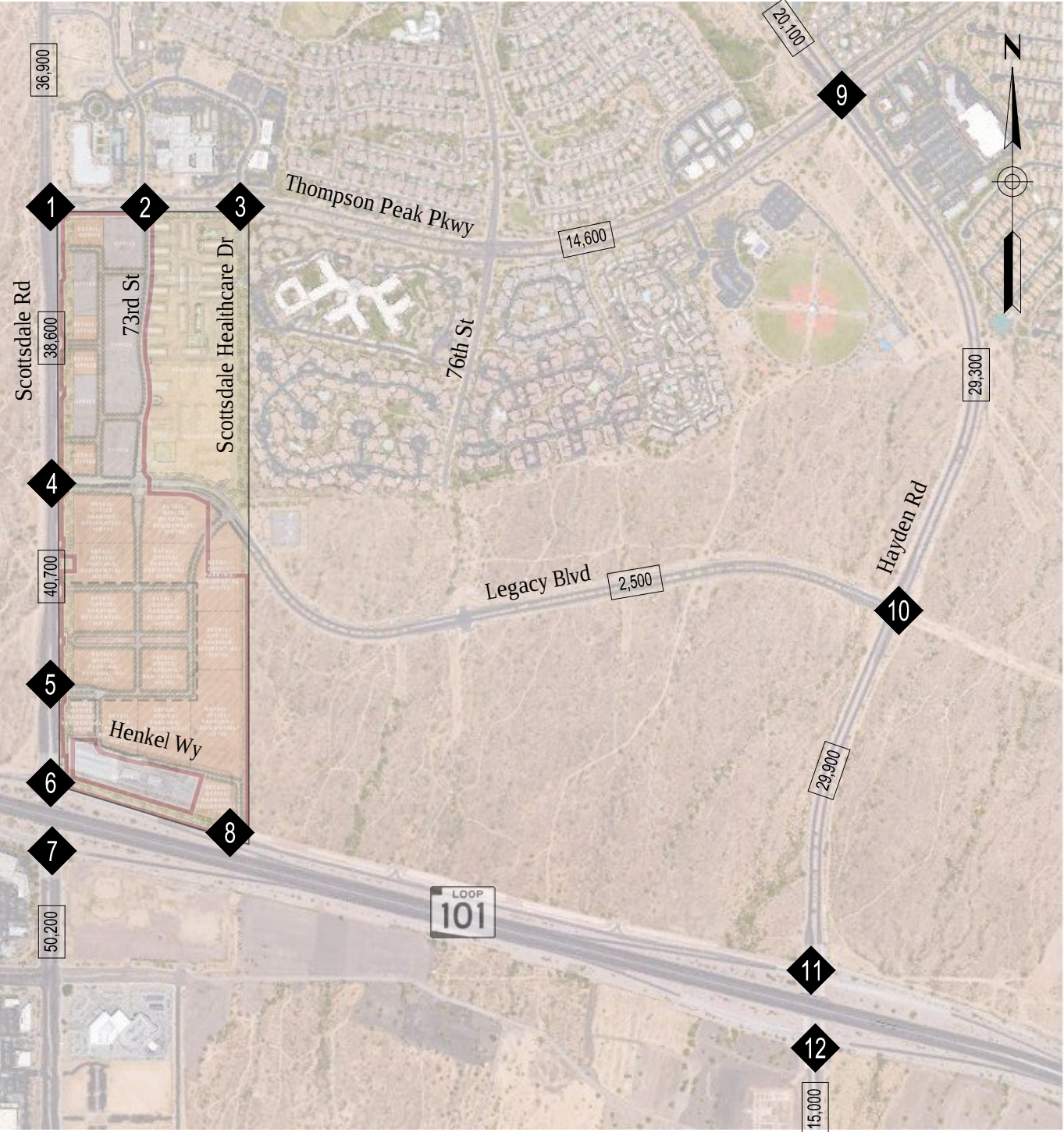
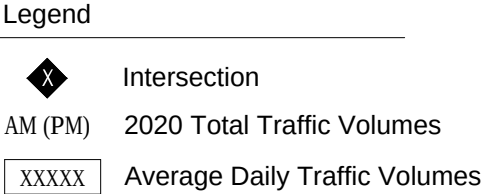
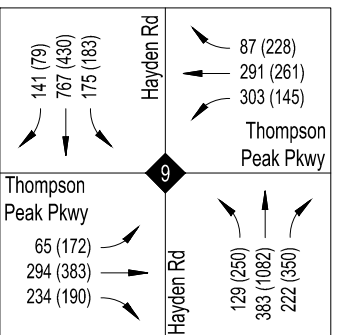
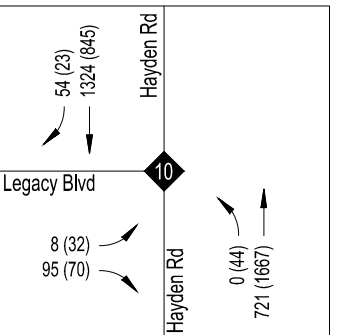
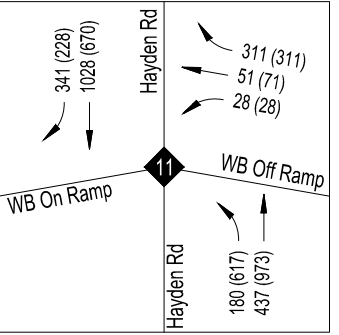
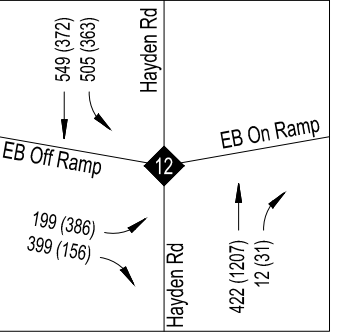


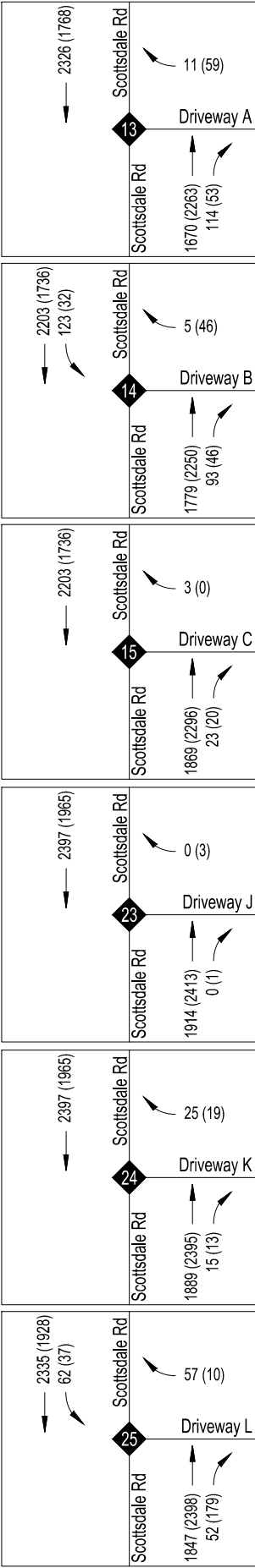
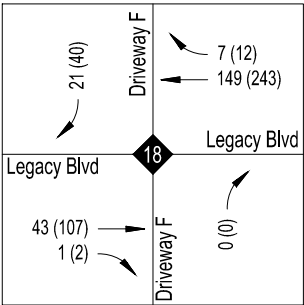
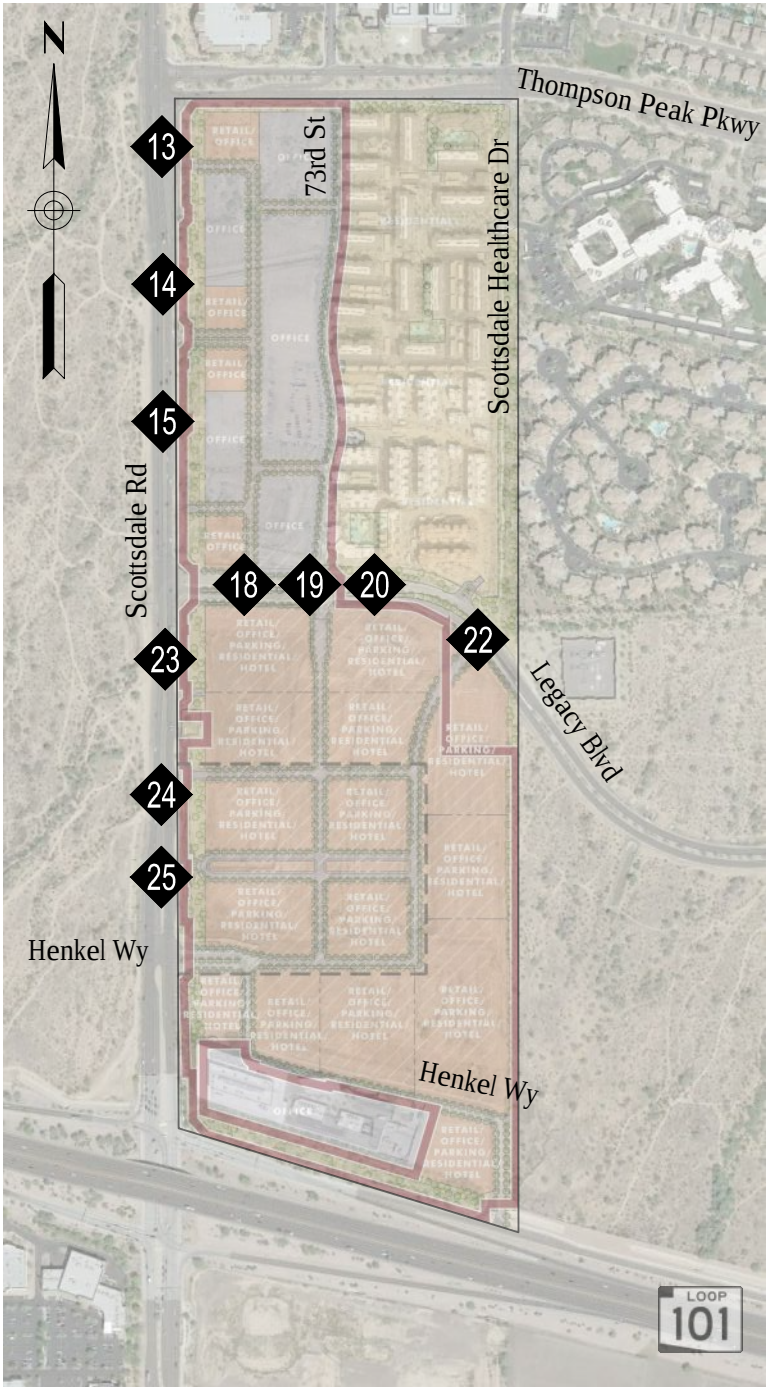
Legend

◆ Driveway

AM (PM) 2020 Background Traffic Volumes



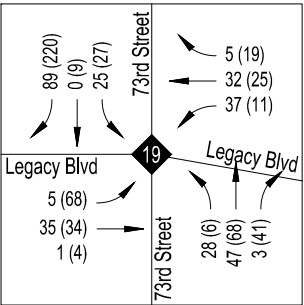
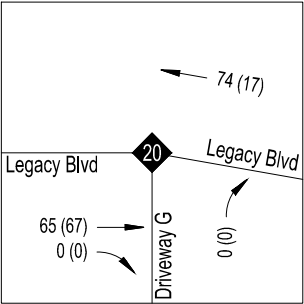
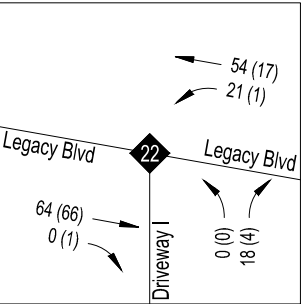


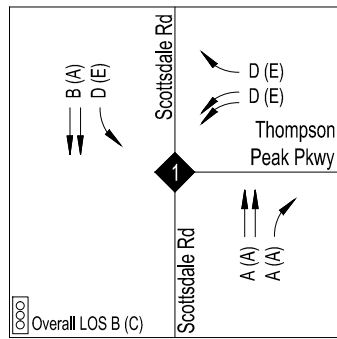
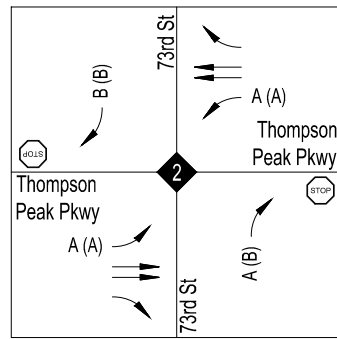
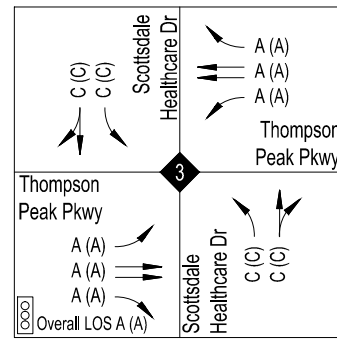
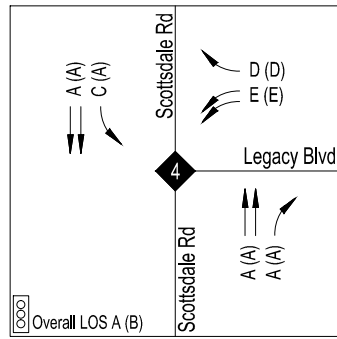
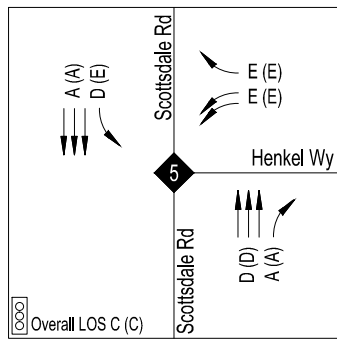
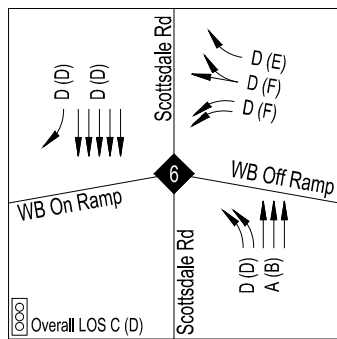
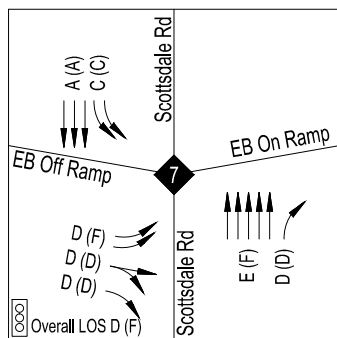
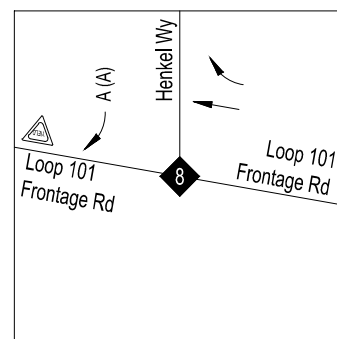
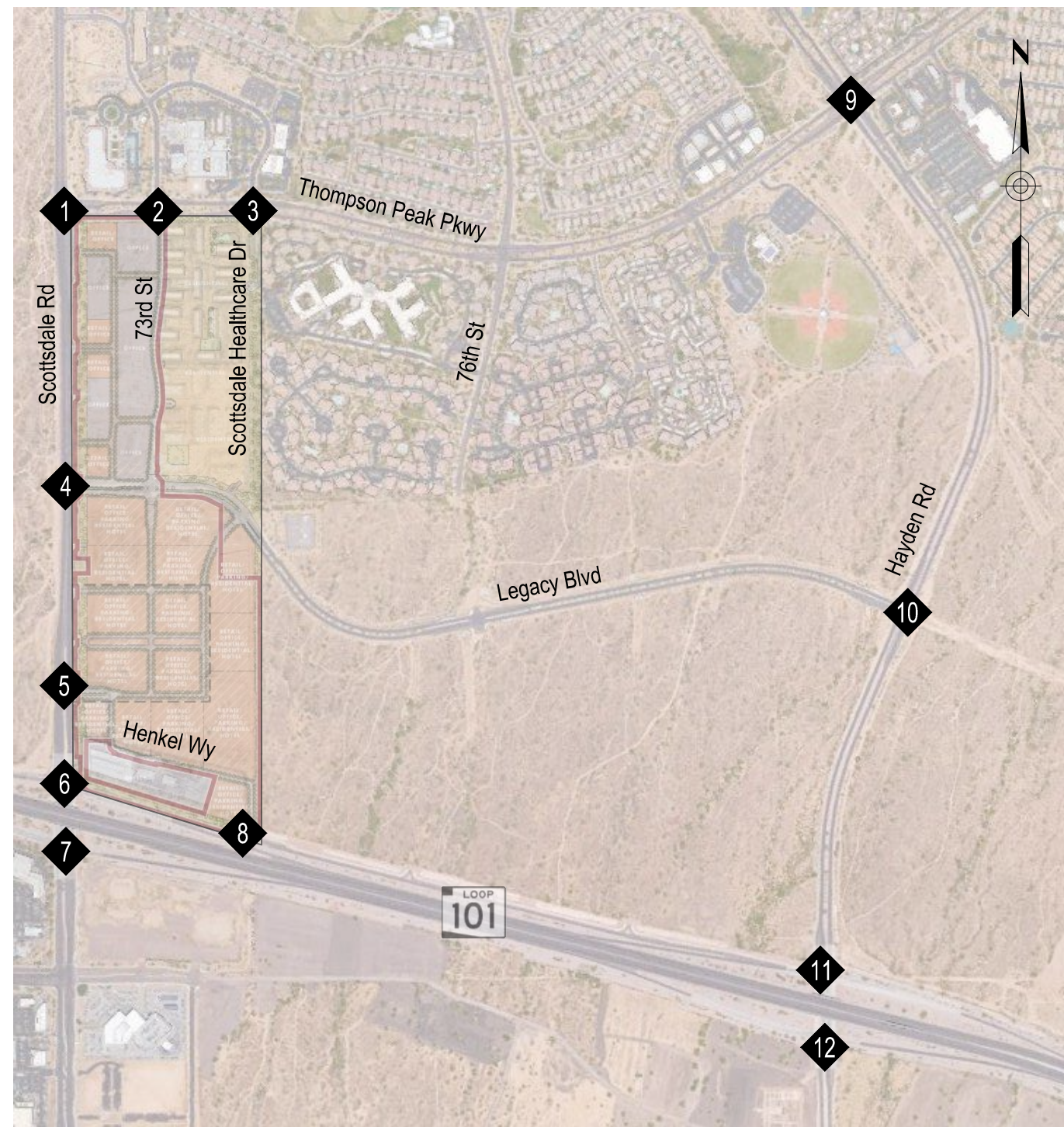


Legend

Driveway

AM (PM) 2020 Total Traffic Volumes

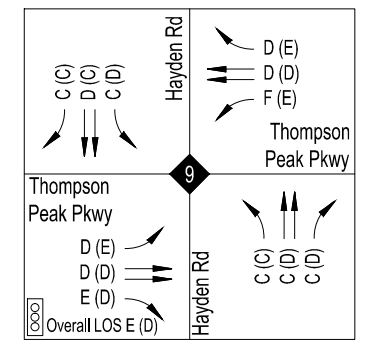
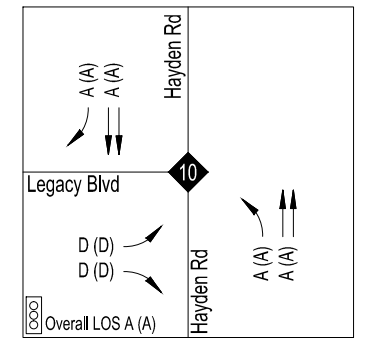
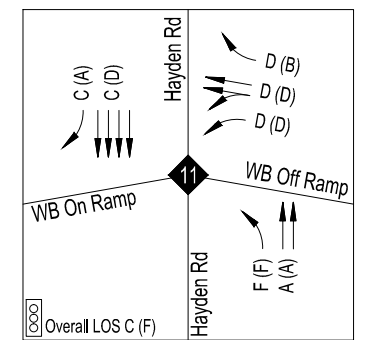
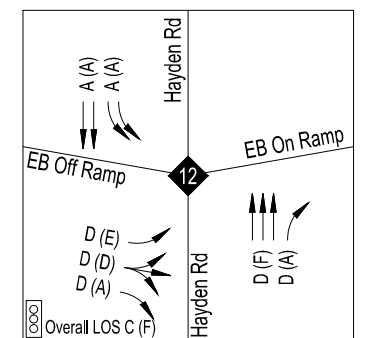


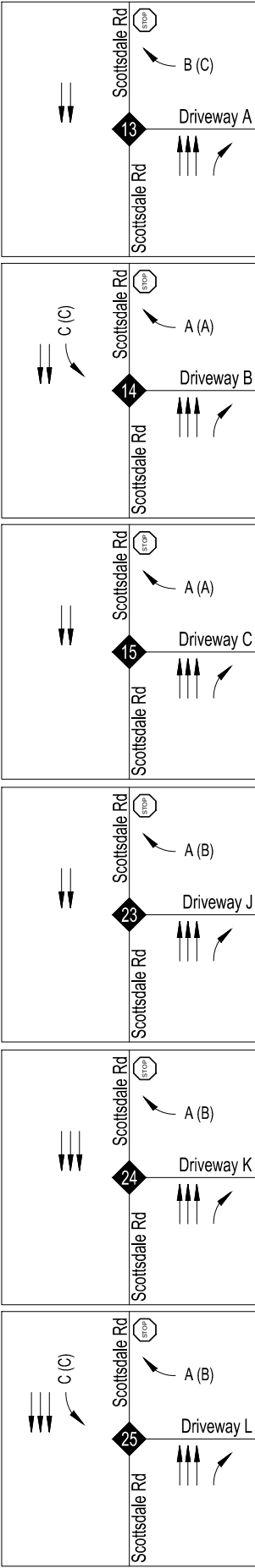
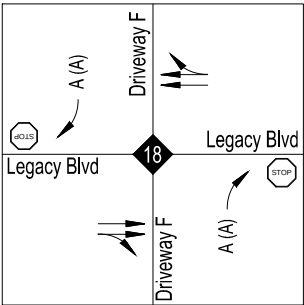
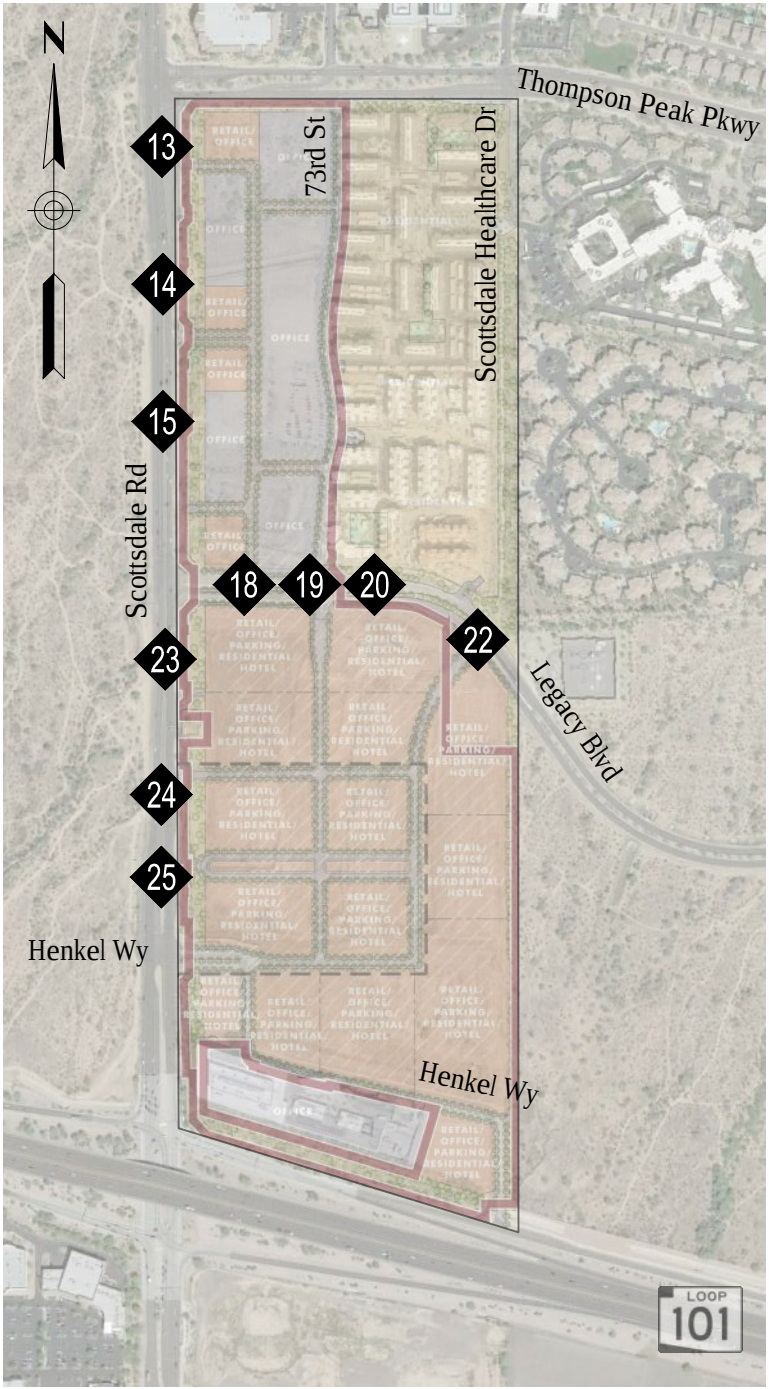


Legend

Intersection

AM (PM) 2020 Capacity Analysis

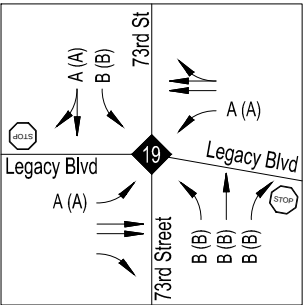
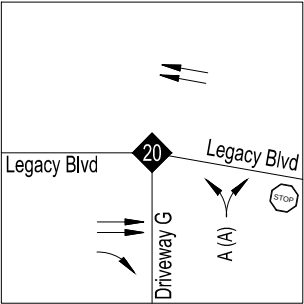
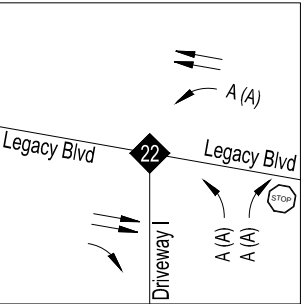




Legend

◆ Driveway

AM (PM) 2020 Capacity Analysis



8. Year 2025 – 10 Year

8.1. Year 2025 Site Traffic

Using the trip distribution as shown in **Figure 8**, the Year 2025 site generated trips (**Table 5**) were assigned to the study intersections and driveways. The Year 2025 Site Traffic Volumes are shown in **Figure 17** and **Figure 18**.

8.2. Year 2025 Background Traffic

The existing and Year 2025 models were obtained from the Maricopa Association of Governments. See **Appendix G**. The surrounding roadway network showed less than a 1% growth rate over the 10 year period. As a conservative estimate, a 0.1% annual growth rate was applied to the existing traffic volumes and was used as the 2025 background traffic volumes. The Year 2025 Background Traffic Volumes are shown in **Figure 19** and **Figure 20**.

The minimal growth is likely due to the extension of 64th Street, Miller Road and Legacy Boulevard as described in detail in **Section 6.2.2**.

The anticipated roadway network changes in Year 2025 provide additional circulation roadways for the area. Even with future developments in and around the surrounding area, these roadway connections help to relieve Scottsdale Road.

Currently the 64th Street traffic interchange at SR 101L ends just north of the freeway and is therefore underutilized. The nearest north-south roadway to the west is Tatum Boulevard, which is located approximately 3 miles to the west of Scottsdale Road. The extension of 64th Street provides the area with an additional north-south roadway with direct access to SR 101L and located 1 mile west of Scottsdale Road and 2 miles east of Tatum Boulevard.

8.3. Year 2025 Total Traffic Volumes

When the site traffic and are added to the 2025 background traffic volumes, the result is the 2025 total traffic volumes. The Year 2025 Total Traffic Volumes are shown in **Figure 21** and **Figure 22**.

8.4. Year 2025 Capacity Analysis

The capacity and level of service for the signalized study area intersections were evaluated using the methodology presented in the 2010 Highway Capacity Manual, and the stop controlled driveways were evaluated using the methodology presented in the 2000 Highway Capacity Manual. Traffic analysis software, Synchro Version 9, was used to perform the analyses using the 2020 traffic volumes, and optimizing the signal timing. With the exception of the driveways for the proposed development, the lane geometry remained the same as the existing lane geometry. The results of the capacity analyses reveal the following locations with an existing level of service (LOS) E or F:



Scottsdale Road and Legacy Boulevard (4) – Signalized

- WB left AM peak hour operates at LOS E
- WB right AM and PM peak hours operate at LOS E

Scottsdale Road and Henkel Way (5) – Signalized

- WB left AM and PM peak hours operate at LOS E
- WB right AM peak hours operate at LOS E

Scottsdale Road and SR 101L WB Ramp (6) – Signalized

- WB left PM peak hour operate at LOS F
- WB through AM and PM peak hours operate at LOS E and LOS F, respectively
- WB right PM peak hour operates at LOS E
- Overall intersection PM peak hour operates at LOS E

Scottsdale Road and SR 101L EB Ramp (7) – Signalized

- NB through AM and PM peak hours operate at LOS F
- EB left AM and PM peak hour operates at LOS F
- EB through PM peak hour operates at LOS E
- Overall intersection PM peak hour operates at LOS F

Hayden Road and Thompson Peak Parkway (9) – Signalized

- WB left AM peak hour operates at LOS E
- WB right PM peak hour operates at LOS E
- EB left PM peak hour operates at LOS E

Hayden Road and SR 101L WB Ramp (11) – Signalized

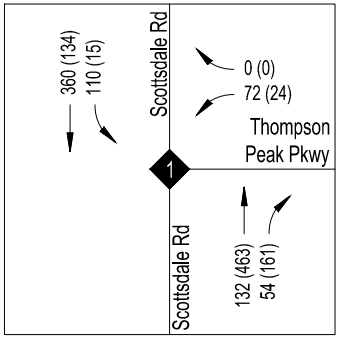
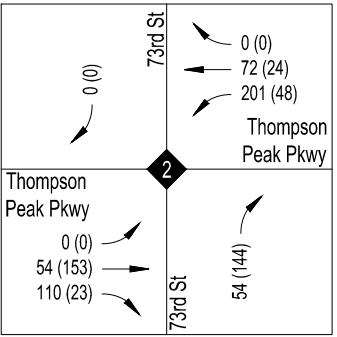
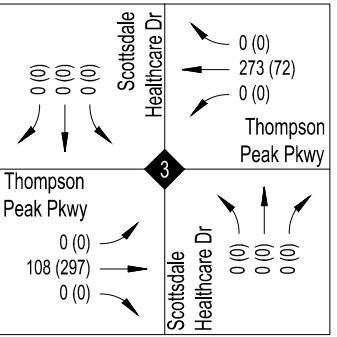
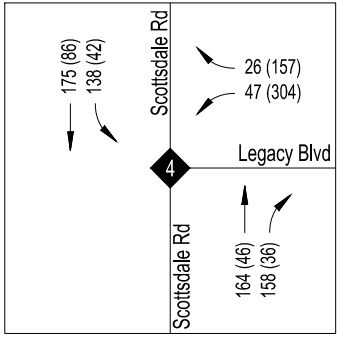
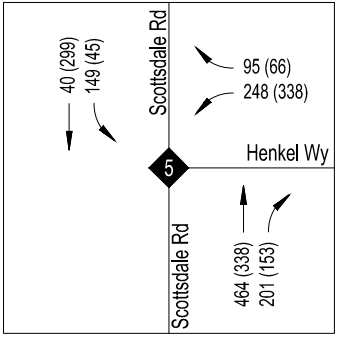
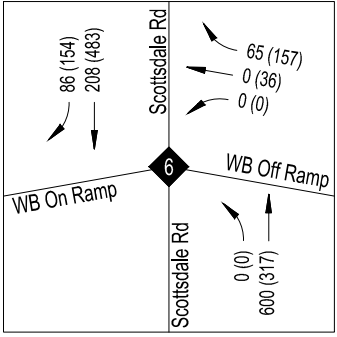
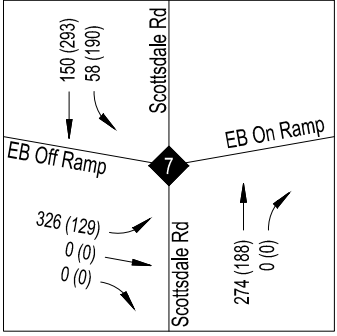
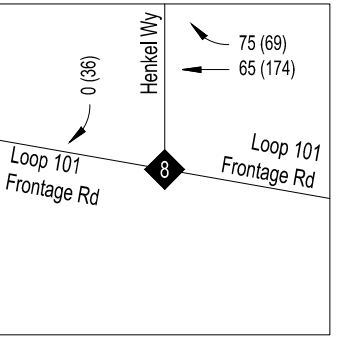
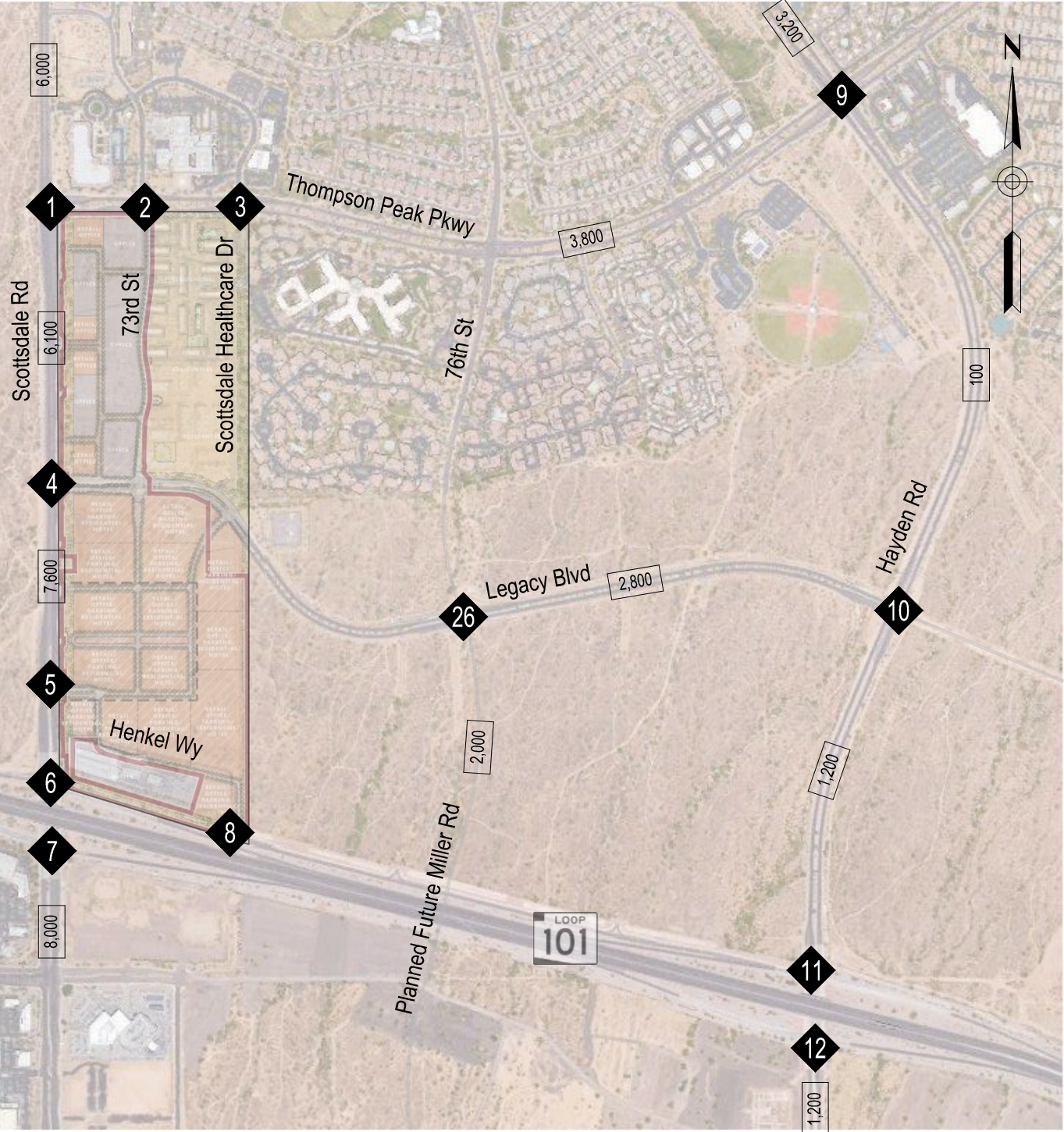
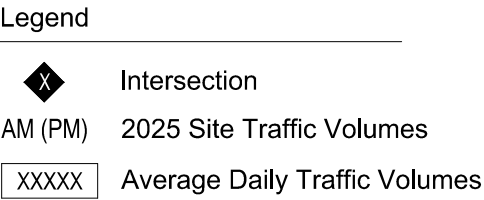
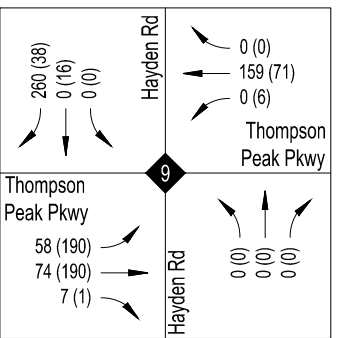
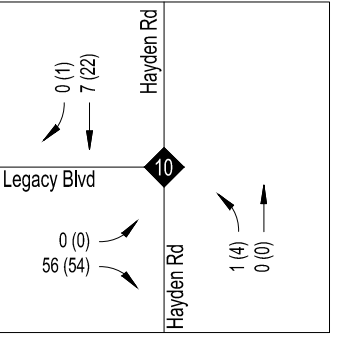
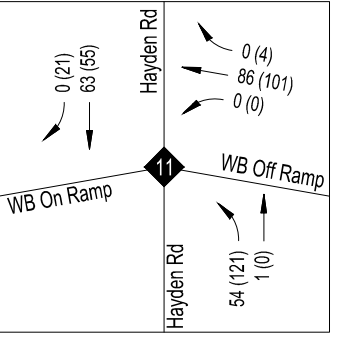
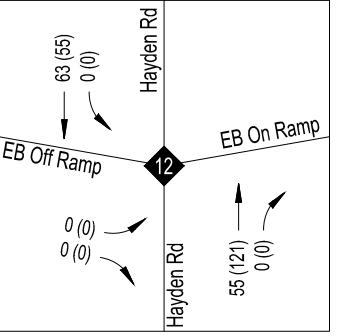
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- Overall intersection PM peak hour operates at LOS F

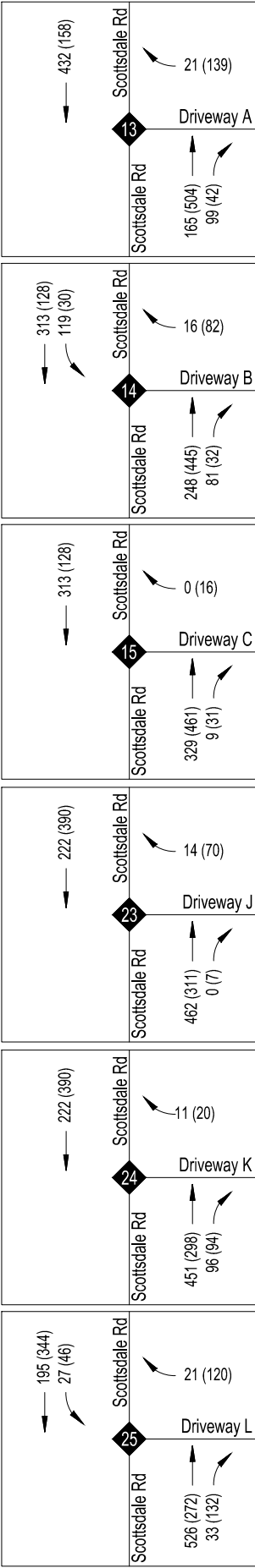
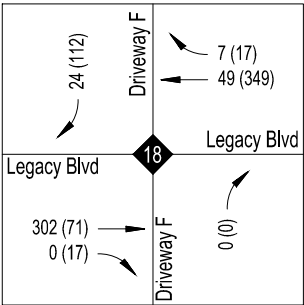
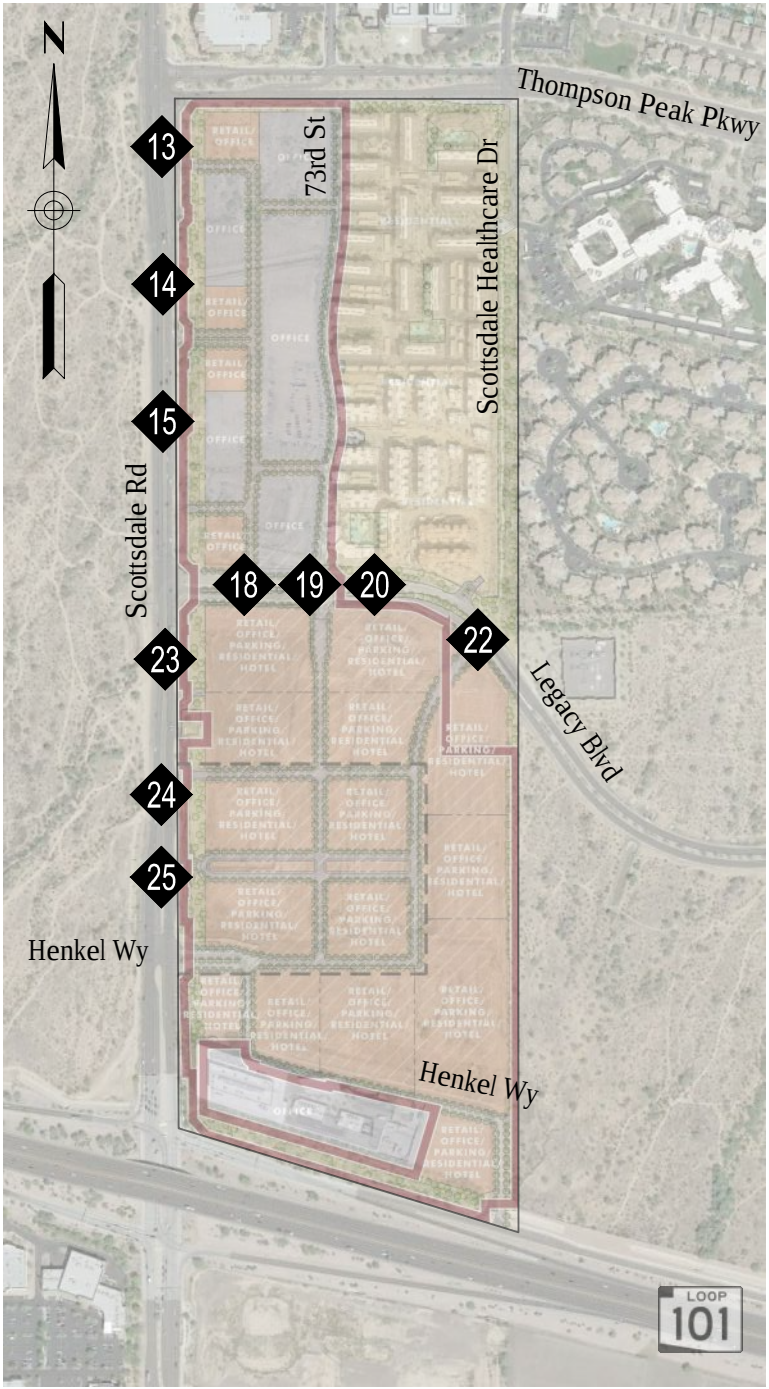
Hayden Road and SR 101L EB Ramp (12) – Signalized

- NB through PM peak hour operates at LOS F
- Overall intersection PM peak hour operates at LOS F

See **Figure 23** and **Figure 24** for the AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in **Appendix I**.



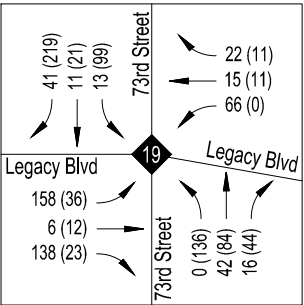
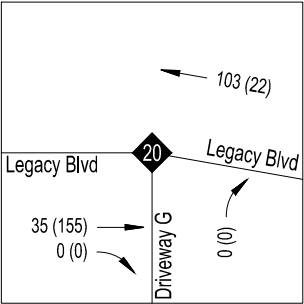
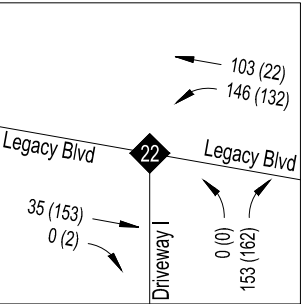


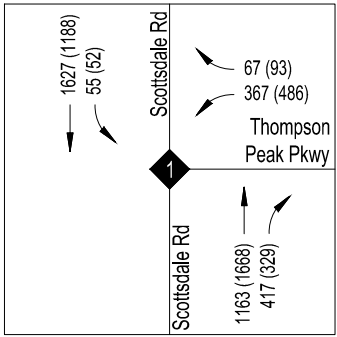
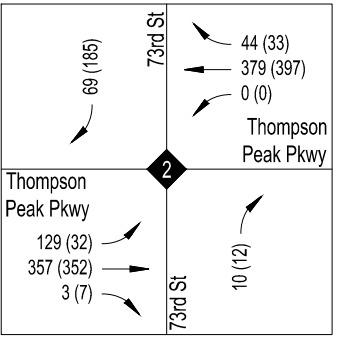
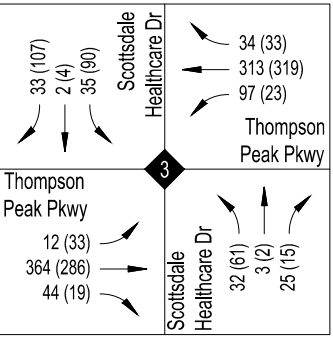
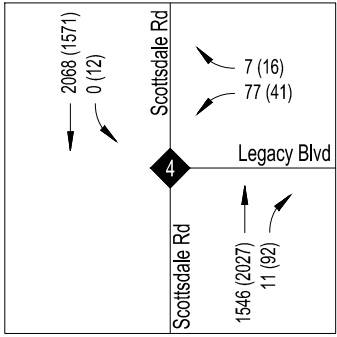
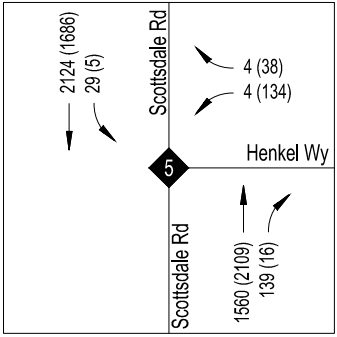
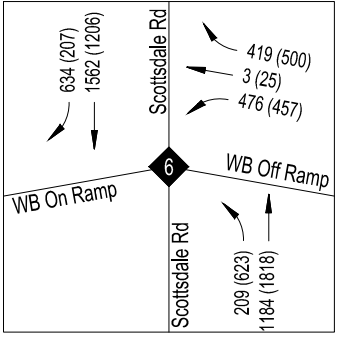
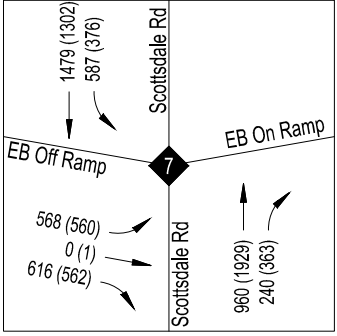
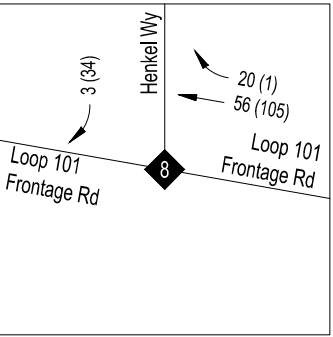
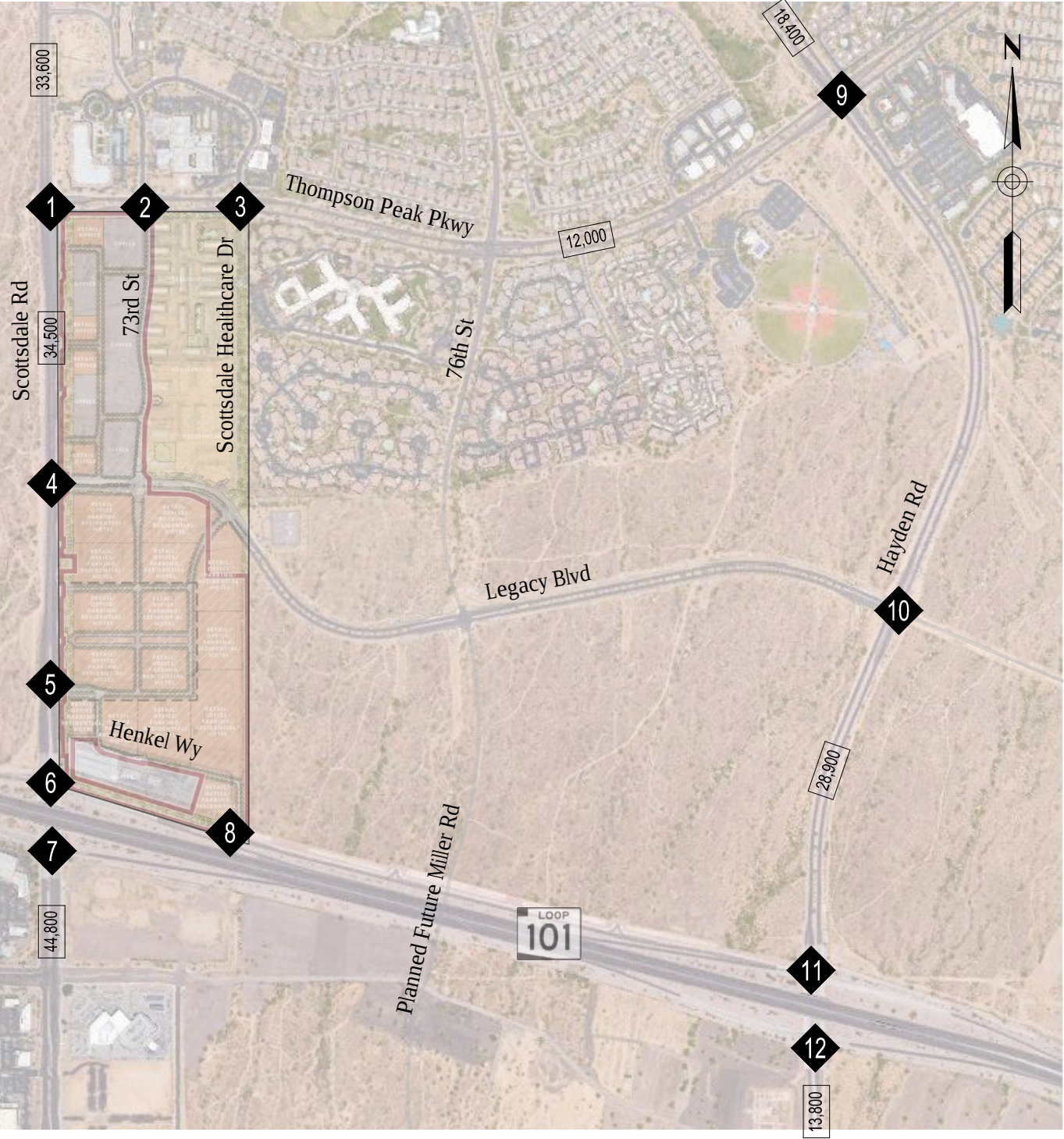
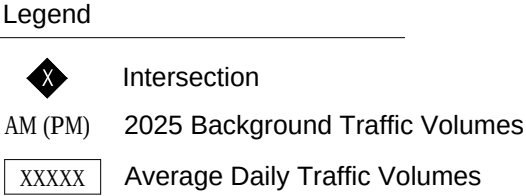
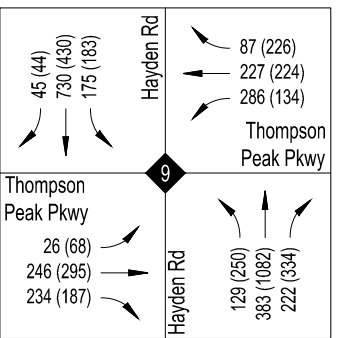
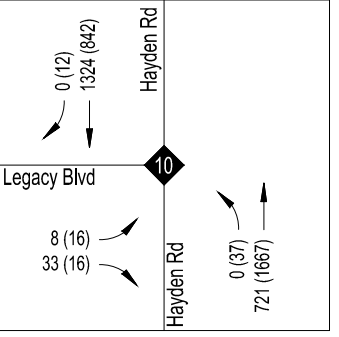
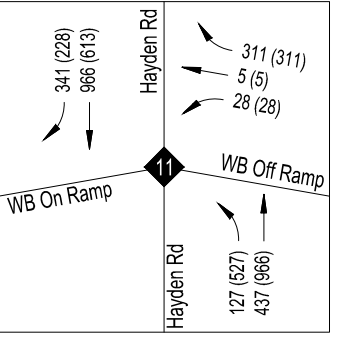
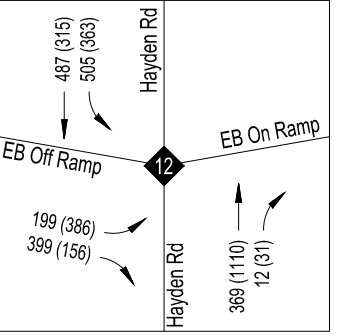


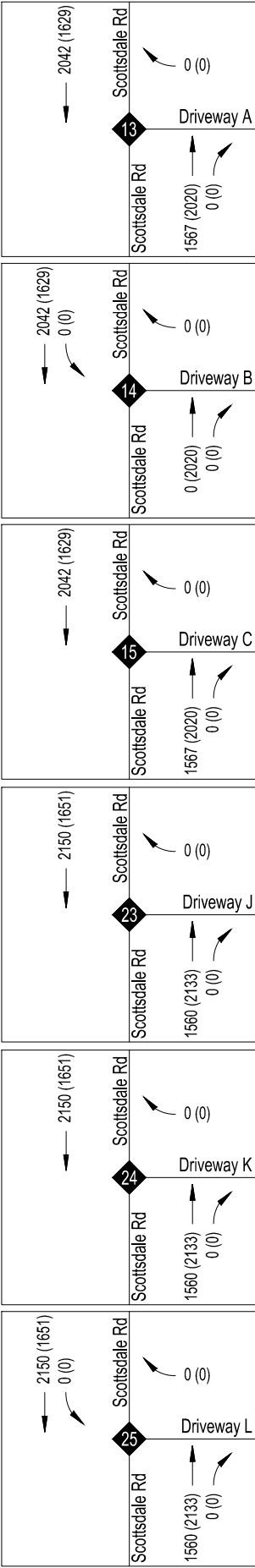
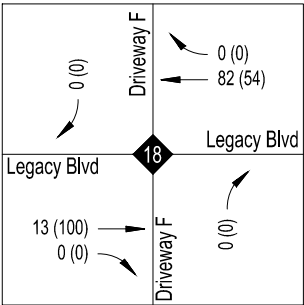
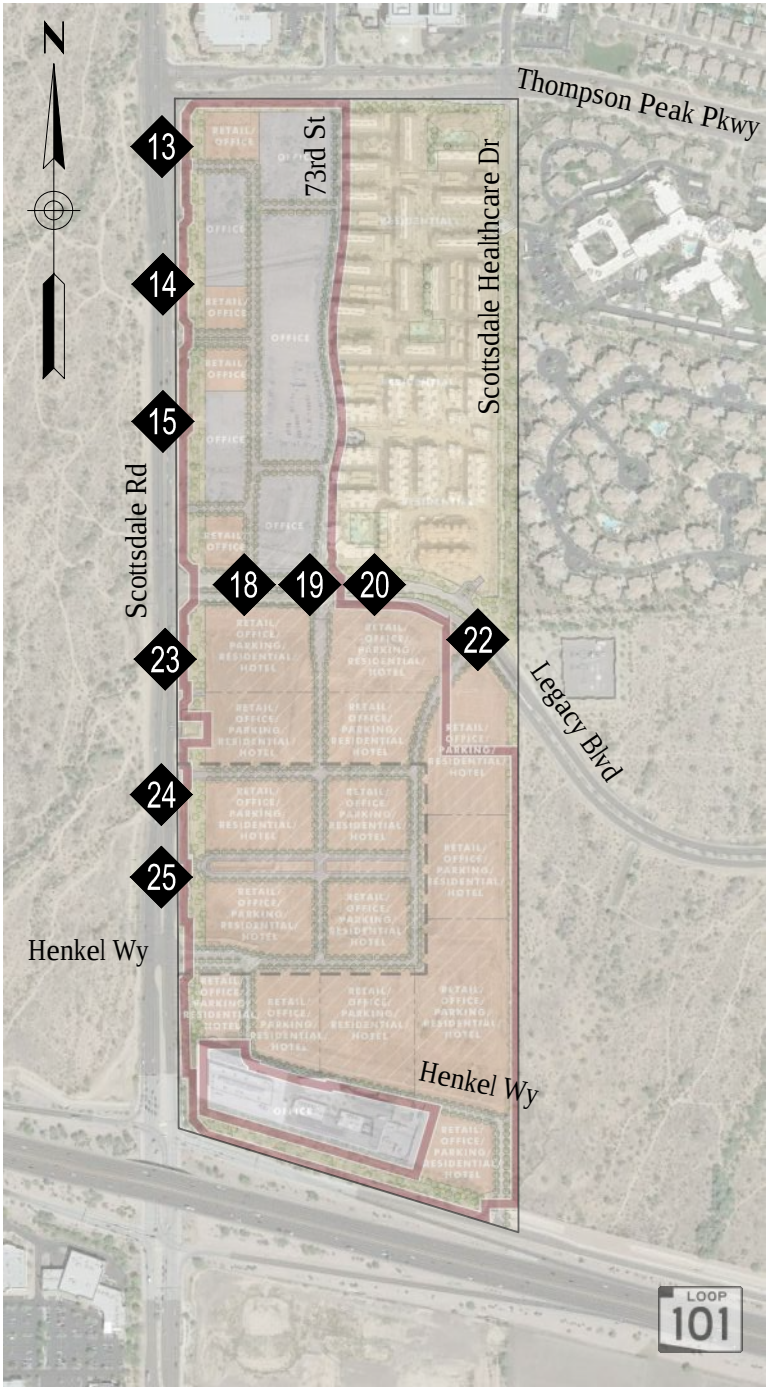
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◆ Driveway

AM (PM) 2025 Site Traffic Volumes

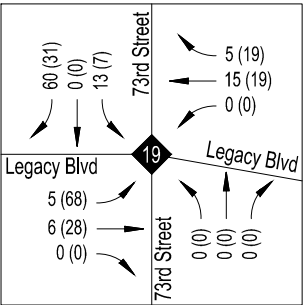
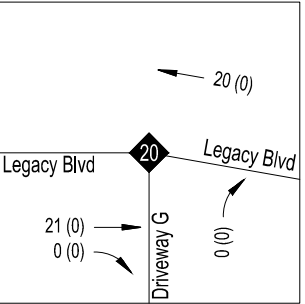
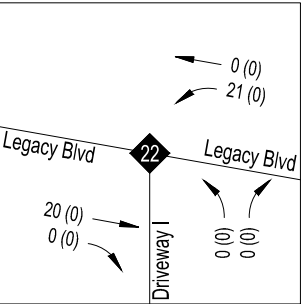


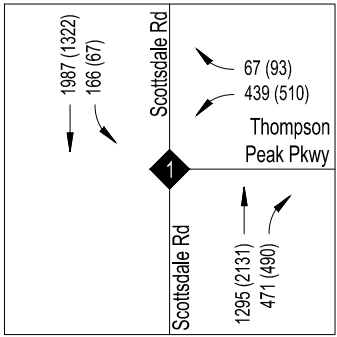
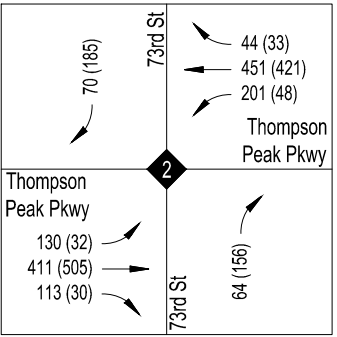
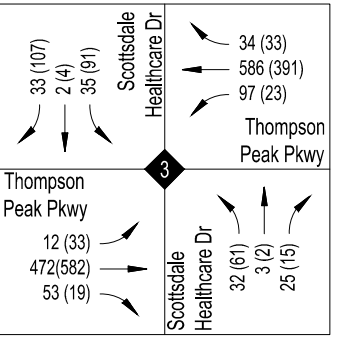
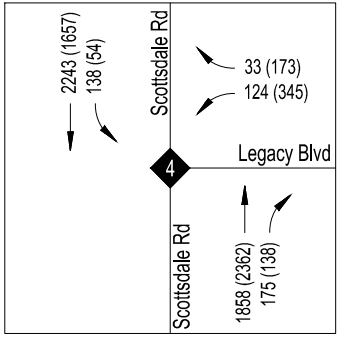
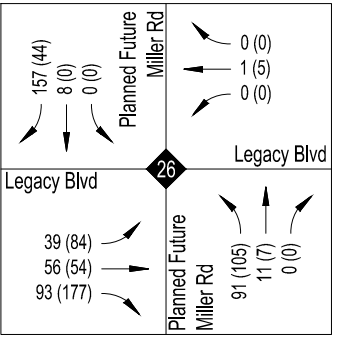
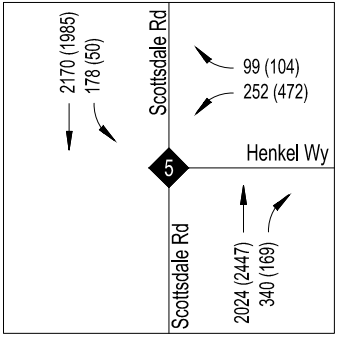
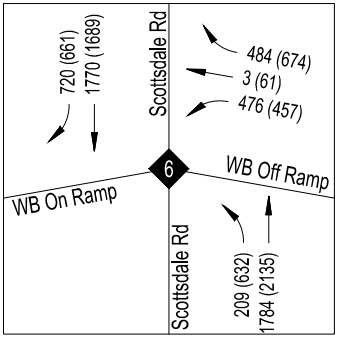
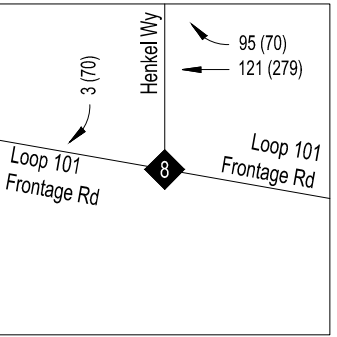
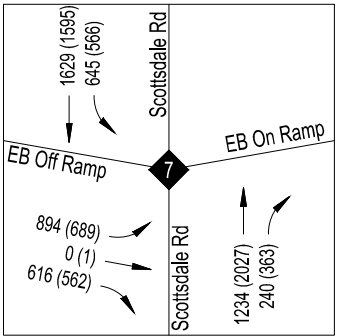
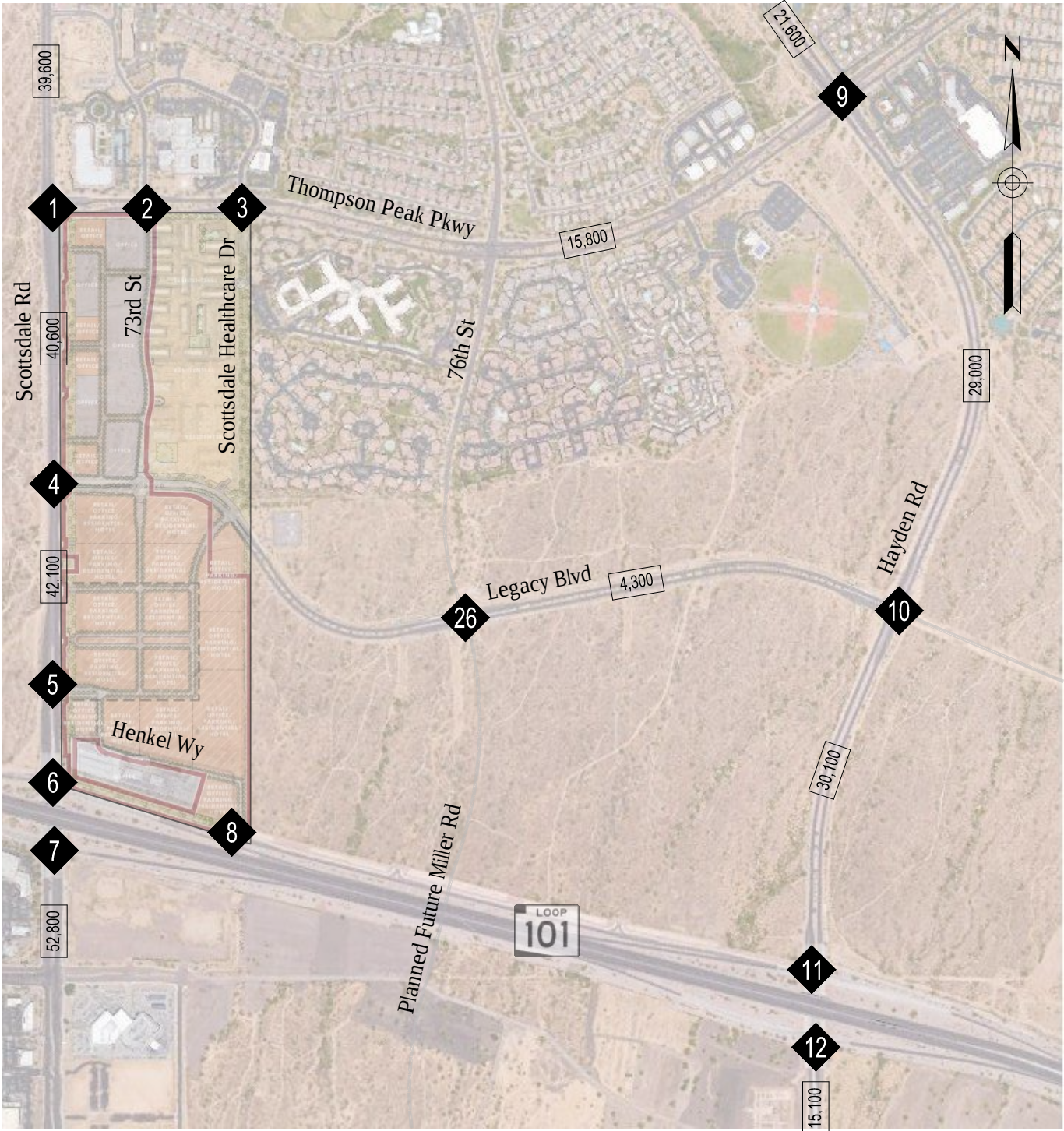




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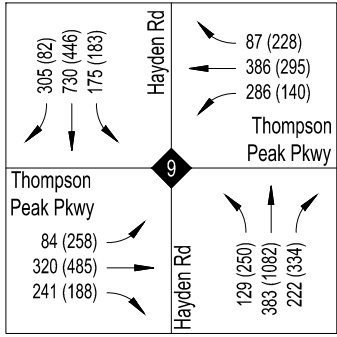
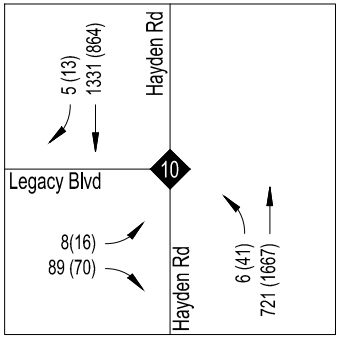
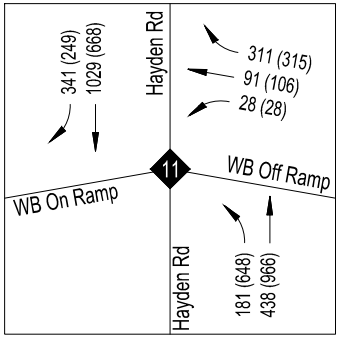
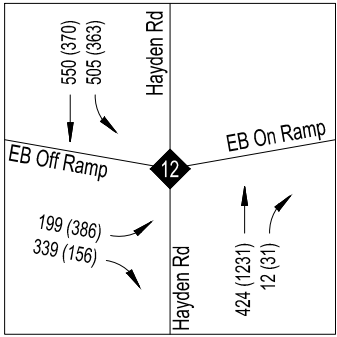
AM (PM) 2025 Background Traffic Volumes

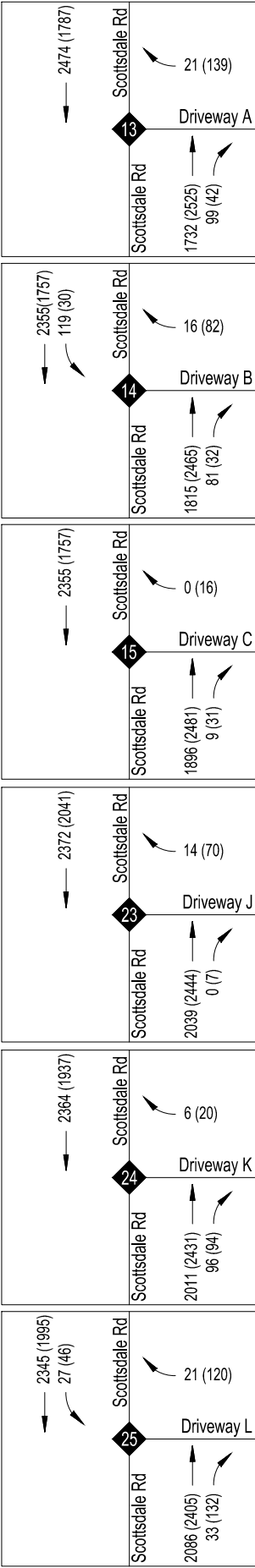
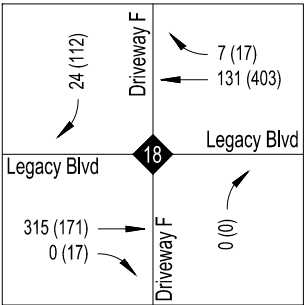
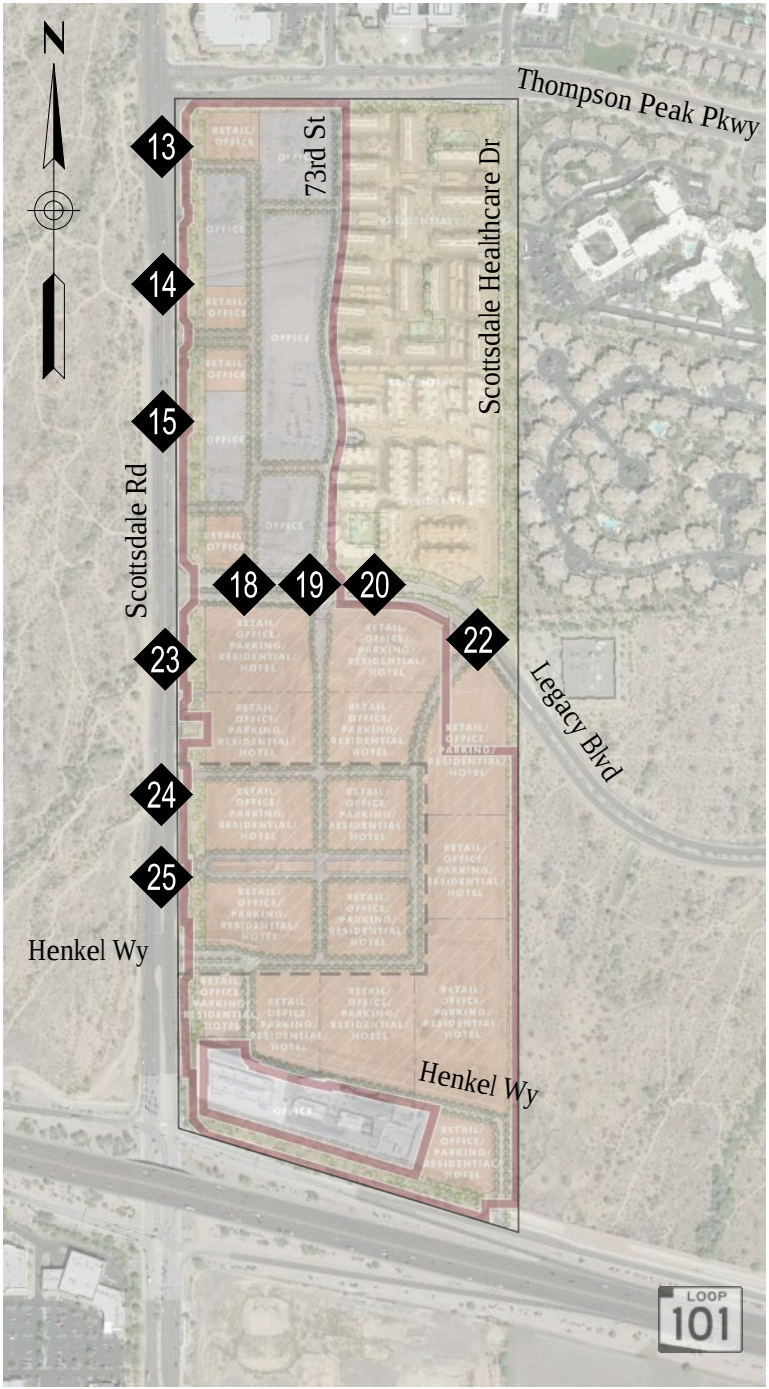
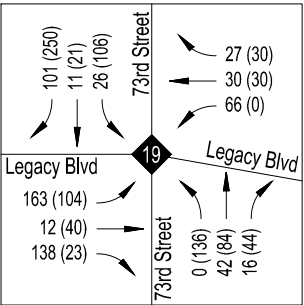
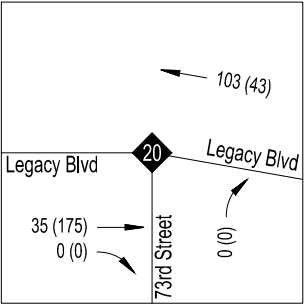
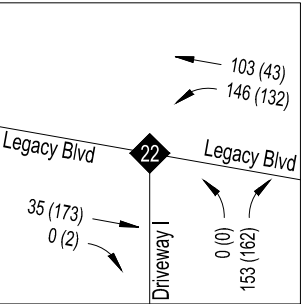


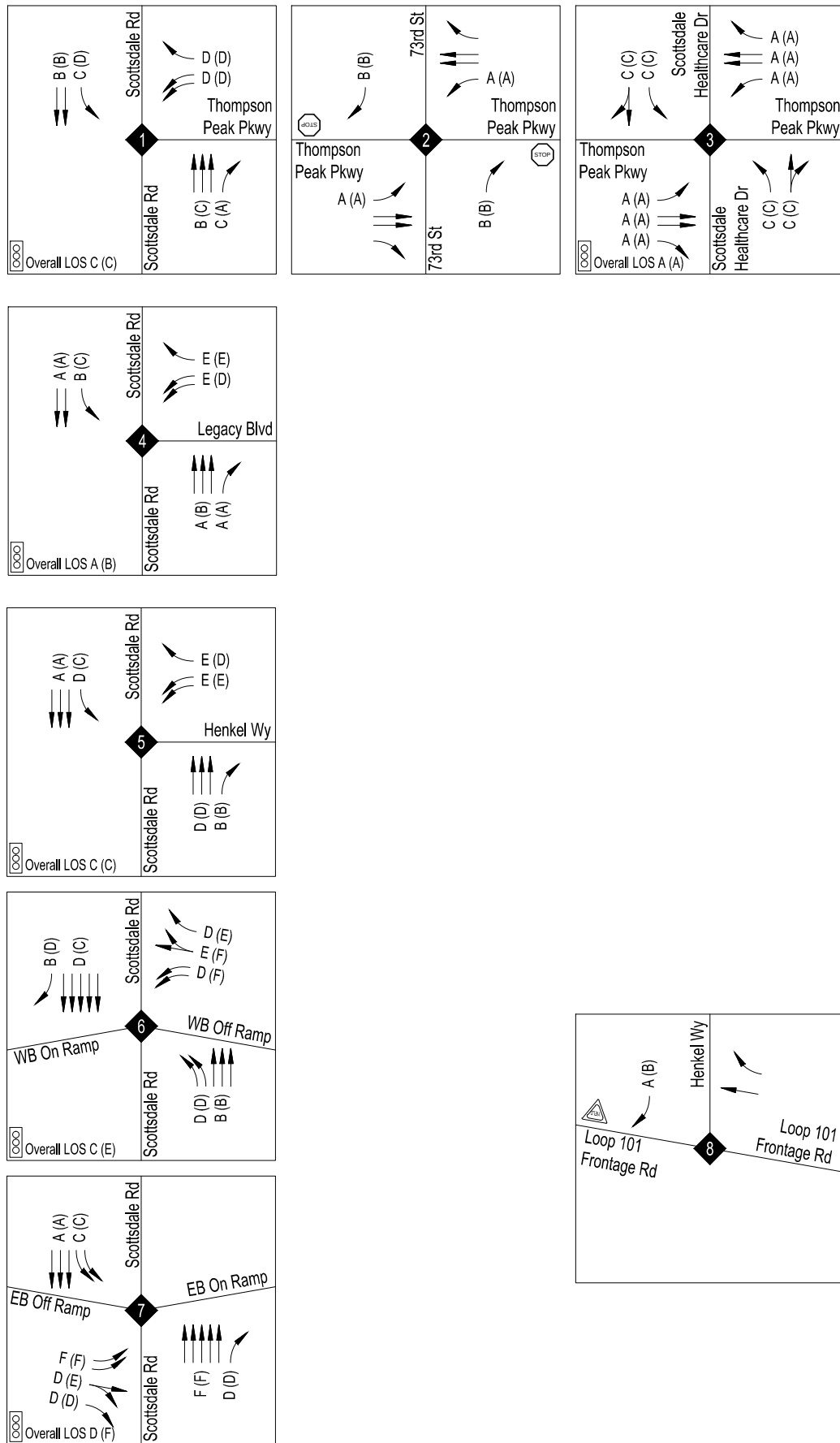


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- Intersection
- AM (PM) 2025 Total Traffic Volumes
- XXXXXX Average Daily Traffic Volumes



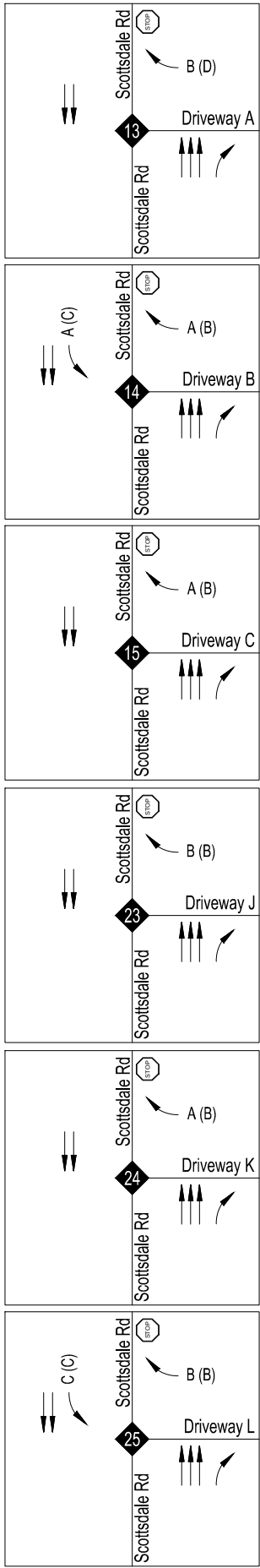
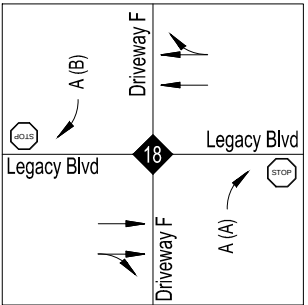
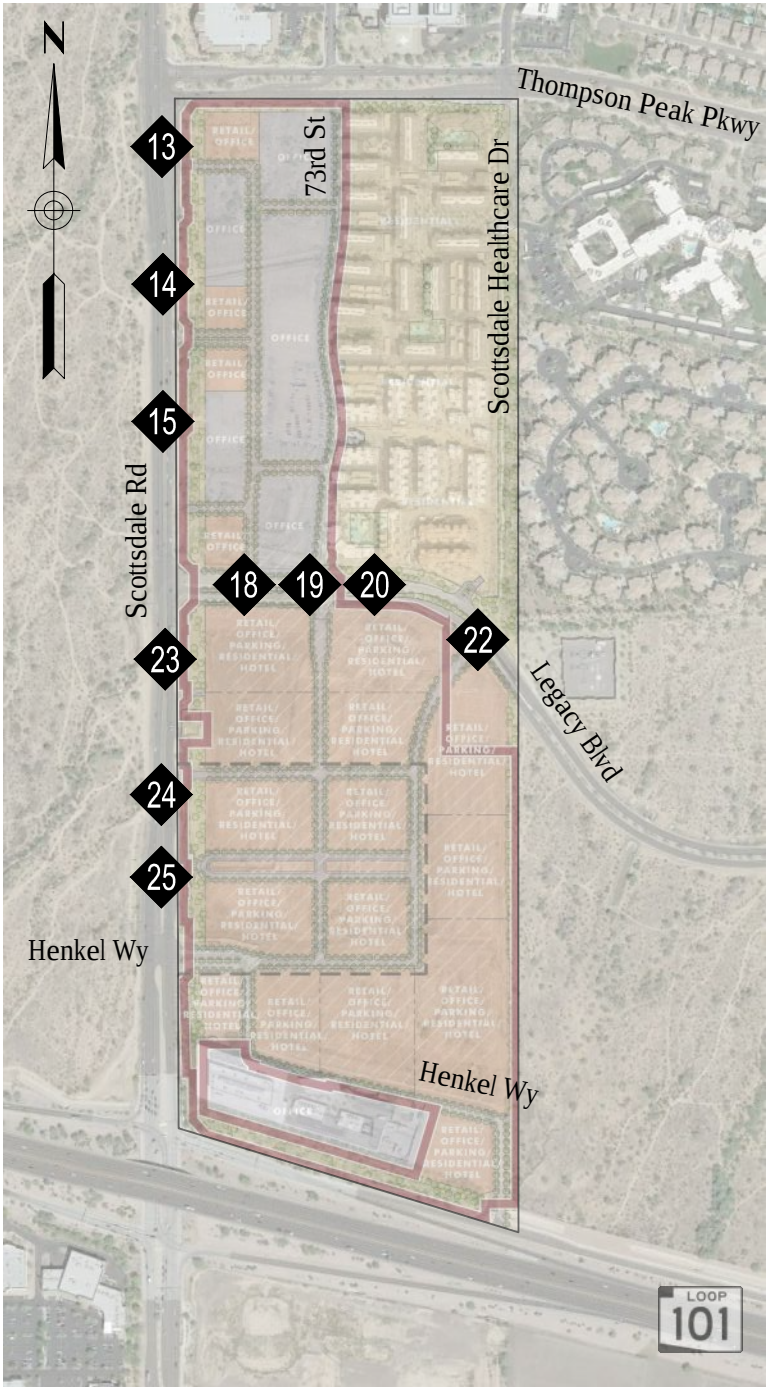




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Intersection

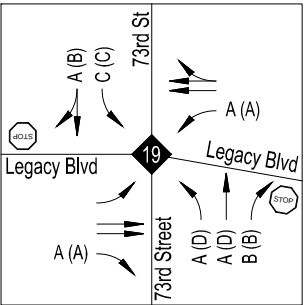
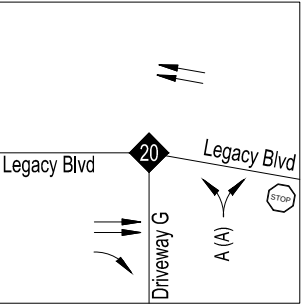
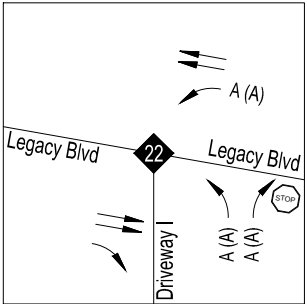
AM (PM) 2025 Capacity Analysis



Legend

◆ Driveway

AM (PM) 2025 Capacity Analysis



In general, the signalized study intersections shows improved or equivalent levels of services when compared to the existing conditions. The signal cycle lengths were held, while modifying the splits to accommodate the change in traffic patterns due to the proposed development.

The vehicles turning into and out of the stop controlled driveways along Scottsdale Road experience delays during the AM and PM peak hours. This is not uncommon in urban areas; additionally drivers can opt of making these turn movements at the signalized intersections.

8.5. Scottsdale Road Cross Section

The State of Florida Department of Transportation publication entitled 2013 Quality/Level of Service Handbook (Q/LOS Handbook) offers two planning level methodologies, generalized planning and conceptual planning. The Q/LOS Handbook is intended to be used by engineers, planners, and decision-makers in the development and review of roadway users' quality/level of service and capacity at generalized and conceptual planning levels. Generalized planning is most appropriate when a quick review of capacity or LOS is needed for future long-range estimates.

The generalized planning analysis, which is a broad type of planning application, was utilized to analyze the roadway segments along Scottsdale Road adjacent to One Scottsdale. The Q/LOS Handbook provides tables, which are the primary tools for conducting generalized planning analysis and are based on the most extensive research in the nation. Table 1 from the Q/LOS Handbook is developed specifically for annual average daily volumes for urbanized areas. The values for Class I (40 mph or higher) interrupted flow facilities with non-state signalized roadway adjustments (-10%), and median and turn lane adjustments applied are shown in **Table 7**.

Table 7 - Annual ADT for Urbanized Areas (40 mph or higher)

Lanes	LOS C	LOS D
4	34,110	35,820
6	52,560	53,910

Scottsdale Road, adjacent to the property, provides two through lanes for each direction of travel north of Henkel Way and three through lanes for each direction of travel south of Henkel Way. Raised medians (between SR 101L and Henkel Way), a two-way left turn lane (north of Thompson Peak Parkway), and dedicated left and right turn lanes are provided at major intersections. There is a posted speed limit of 45 mph.

The City of Scottsdale classifies Scottsdale Road as a major arterial – urban, which has a design ADT of 35,000 – 55,000 vehicles per day, per the Scottsdale 2009 Design Standards and Policies Manual. According to the 2014 City of Scottsdale ADT Volume Segment Map, the average daily traffic (ADT) volumes on Scottsdale Road vary between 33,000 vehicles per day (vpd), north of Thompson Peak Parkway, to 44,400 vpd, south of SR 101L.



Table 8 summarizes indicates the existing (2016) as well as the calculated projected 2020 and 2025 ADTs on Scottsdale Road within the study area.

Table 8 – Scottsdale Road ADTs

Scottsdale Road	2014 ADT	2020 ADT	2025 ADT
North of Thompson Peak Pkwy	33,300	36,900	39,600
Thompson Peak Pkwy to Legacy Blvd	34,200	38,600	40,600
Legacy Blvd to SR 101L	34,200	40,700	42,100
South of SR 101L	44,400	50,200	52,800

The existing average daily traffic (ADT) along Scottsdale road adjacent to the proposed One Scottsdale development currently has an ADT of 34,200 vehicles per day, which is just under the 35,820 vehicles per day to operate at a LOS D with 4 lanes. With background growth and the projected Year 2020 site build out of the proposed One Scottsdale development, the ADT along Scottsdale Road adjacent to the site reaches 40,700 vehicles per day, which is approximately 30% above the criteria to operate at a LOS D for a 4 lane facility, yet 70% below the criteria to operate at a LOS C for a 6 lane facility.

Similarly, in Year 2025, with the ADT along Scottsdale Road adjacent to the site reaching 42,100 vehicles per day, it is approximately 40% above the criteria to operate at a LOS D for a 4 lane facility, yet 60% below the criteria to operate at a LOS C for a 6 lane facility.

Therefore, the projected ADTs along Scottsdale Road adjacent to the proposed One Scottsdale development in Year 2020 and Year 2025 exceed the 4 lane facility LOS D, yet falls significantly below the 6 lane facility LOS C. This is based on this generalized planning analysis. Ultimately, this supports and aligns with the more detailed analysis and recommendations as described in **Section 7** for year 2020, which is to includes an additional northbound through lane between Henkel Way and Thompson Peak Parkway.

8.6. Year 2025 Improvements and Considerations

As described previously the Year 2025 analysis assume the following changes to the roadway network based on the MAG 2025 model:

- Extension of 64th Street from SR 101L north to Pinnacle Peak Road.
- Extension of the Miller Road alignment Princess Boulevard to tie into the existing alignment just south of Thompson Peak Parkway
- Extension of Legacy Boulevard from Hayden Road to Pima Road.



9. Recommendations and Conclusions

The proposed development is located on the northeast corner of State Route 101 Loop (SR 101L) and Scottsdale Road. The proposed site is bound by Thompson Peak Parkway to the north, Scottsdale Road to the west, SR 101L to the south, and 73rd Street and the Scottsdale Healthcare Drive alignment to the east. Legacy Boulevard runs east-west through the site. The existing site is undeveloped vacant land.

The proposed development includes the following land uses:

- 269,900 square feet of Retail
- 2,171,089 square feet of Office
- 100,000 square feet of Restaurant
- 400 room Hotel
- 1,716 dwelling units of Multi-Family Residential

The existing conditions, along with Year 2020 (5 year) and Year 2025 (10 year) analyses were completed for twenty-two (22) study intersections and site driveways. Evaluating the capacity analysis, the following are the recommended improvements:

Year 2020

With the exception of an additional northbound through lane on Scottsdale Road between Henkel Way and Thompson Peak Parkway and the driveways for the proposed development, no additional improvements are necessary in Year 2020.

Scottsdale Road and Driveway A (13) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only.

Scottsdale Road and Driveway B (14) improvement to include a stop controlled driveway opening allowing for right and left turns into the site, but only allowing right turns out of the site.

Scottsdale Road and Driveway C (15) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only.

73rd Street and Driveway D (16) improvement to include a stop controlled driveway opening allowing all movements into and out of the site.

73rd Street and Driveway E (17) improvement to include a stop controlled driveway opening allowing all movements into and out of the site.



Legacy Boulevard and Driveway F (18) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only. This includes access to the proposed site north of Legacy Boulevard, as well as access to the proposed site south of Legacy Boulevard.

73rd Street and Legacy Boulevard (19) improvement to include the build out of the south leg. The south leg will be stop controlled with an exclusive left turn lane, one through lane, and an exclusive right turn lane. The north leg improvement to include restriping to accommodate a southbound through lane.

Legacy Boulevard and Driveway G (20) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only. This includes access to the proposed site south of Legacy Boulevard.

Legacy Boulevard and Driveway I (22) improvement to include a stop controlled driveway opening allowing all movements and access to the proposed site south of Legacy Boulevard.

Scottsdale Road and Driveway J (23) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only.

Scottsdale Road and Driveway K (24) improvement to include a stop controlled driveway opening allowing for right in and right out of the site only.

Scottsdale Road and Driveway L (25) improvement to include a stop controlled driveway opening allowing for right and left turns into the site, but only allow right turns out of the site.

Year 2025

As described in **Section 6.2.1**, the Year 2025 analysis assumes the following changes to the roadway network based on the MAG 2025 model:

- Extension of 64th Street from SR 101L north to Pinnacle Peak Road.
- Extension of the Miller Road alignment Princess Boulevard to tie into the existing alignment just south of Thompson Peak Parkway
- Extension of Legacy Boulevard from Hayden Road to Pima Road.

An internal circulator will also be provided for the proposed One Scottsdale development which will further reduce the number of trips. No reductions were applied to accommodate the internal circulator. Therefore, the operation of the circulator will result in improved traffic operations beyond what is reported in this traffic study.





Appendix C – Traffic Count Data

Site Code: 13
SCOTTSDALE RD N.O LEGACY BLVD

Start Time	18-Oct-23 Wed	NB	SB							Total
12:00 AM		73	82							155
01:00		40	40							80
02:00		57	49							106
03:00		65	74							139
04:00		149	130							279
05:00		594	365							959
06:00		1025	824							1849
07:00		1381	1517							2898
08:00		1441	1502							2943
09:00		1433	1458							2891
10:00		1445	1482							2927
11:00		1535	1574							3109
12:00 PM		1525	1557							3082
01:00		1607	1551							3158
02:00		1514	1651							3165
03:00		1729	1512							3241
04:00		1720	1376							3096
05:00		1685	1369							3054
06:00		1377	1050							2427
07:00		926	676							1602
08:00		734	568							1302
09:00		484	501							985
10:00		266	289							555
11:00		133	145							278
Total		22938	21342							44280
Percent		51.8%	48.2%							
AM Peak	-	11:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	1535	1574	-	-	-	-	-	-	3109
PM Peak	-	15:00	14:00	-	-	-	-	-	-	15:00
Vol.	-	1729	1651	-	-	-	-	-	-	3241
Grand Total		22938	21342							44280
Percent		51.8%	48.2%							
ADT		ADT 44,280	AADT 44,280							

Site Code: 14
14. SCOTTSDALE RD N.O LOOP 101 WB RAMPS

Start Time	18-Oct-23 Wed	NB	SB							Total
12:00 AM		72	87							159
01:00		40	43							83
02:00		58	52							110
03:00		72	80							152
04:00		178	146							324
05:00		633	380							1013
06:00		1030	842							1872
07:00		1315	1546							2861
08:00		1388	1505							2893
09:00		1381	1456							2837
10:00		1314	1453							2767
11:00		1424	1532							2956
12:00 PM		1545	1505							3050
01:00		1486	1469							2955
02:00		1470	1529							2999
03:00		1667	1315							2982
04:00		1715	1396							3111
05:00		1621	1273							2894
06:00		1341	1111							2452
07:00		920	722							1642
08:00		754	593							1347
09:00		492	520							1012
10:00		290	297							587
11:00		151	154							305
Total		22357	21006							43363
Percent		51.6%	48.4%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	11:00
Vol.	-	1424	1546	-	-	-	-	-	-	2956
PM Peak	-	16:00	14:00	-	-	-	-	-	-	16:00
Vol.	-	1715	1529	-	-	-	-	-	-	3111
Grand Total		22357	21006							43363
Percent		51.6%	48.4%							
ADT		ADT 43,363	AADT 43,363							

Site Code: 15
15. THOMPSON PEAK PKWY E.O SCOTTSDALE RD

Start Time	19-Oct-23 Thu	EB	WB	Total
12:00 AM		44	40	84
01:00		28	21	49
02:00		28	21	49
03:00		25	23	48
04:00		47	14	61
05:00		106	71	177
06:00		262	214	476
07:00		423	382	805
08:00		455	445	900
09:00		339	477	816
10:00		342	486	828
11:00		303	599	902
12:00 PM		378	588	966
01:00		351	532	883
02:00		367	577	944
03:00		365	627	992
04:00		361	763	1124
05:00		386	714	1100
06:00		353	447	800
07:00		256	329	585
08:00		170	229	399
09:00		104	139	243
10:00		72	94	166
11:00		44	56	100
Total		5609	7888	13497
Percent		41.6%	58.4%	
AM Peak	-	08:00	11:00	-
Vol.	-	455	599	-
PM Peak	-	17:00	16:00	-
Vol.	-	386	763	-
Grand Total		5609	7888	13497
Percent		41.6%	58.4%	
ADT		ADT 13,497	AADT 13,497	

Site Code: 16
16. LEGACY BLVD E.O SCOTTSDALE RD

Start Time	18-Oct-23 Wed	EB	WB							Total
12:00 AM		3	2							5
01:00		2	3							5
02:00		5	4							9
03:00		1	4							5
04:00		11	20							31
05:00		69	21							90
06:00		75	59							134
07:00		55	90							145
08:00		42	74							116
09:00		53	63							116
10:00		50	66							116
11:00		66	54							120
12:00 PM		81	47							128
01:00		53	64							117
02:00		79	118							197
03:00		63	91							154
04:00		81	62							143
05:00		117	62							179
06:00		70	59							129
07:00		53	27							80
08:00		52	15							67
09:00		40	15							55
10:00		34	7							41
11:00		16	8							24
Total		1171	1035							2206
Percent		53.1%	46.9%							
AM Peak	-	06:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	75	90	-	-	-	-	-	-	145
PM Peak	-	17:00	14:00	-	-	-	-	-	-	14:00
Vol.	-	117	118	-	-	-	-	-	-	197
Grand Total		1171	1035							2206
Percent		53.1%	46.9%							
ADT		ADT 2,206	AADT 2,206							

Site Code: 17
17. 73RD ST N.O LEGACY BLVD

Start Time	18-Oct-23 Wed	NB	SB							Total
12:00 AM		5	1							6
01:00		2	3							5
02:00		6	3							9
03:00		1	5							6
04:00		1	21							22
05:00		10	26							36
06:00		15	66							81
07:00		27	116							143
08:00		32	79							111
09:00		44	75							119
10:00		36	75							111
11:00		43	62							105
12:00 PM		58	45							103
01:00		44	51							95
02:00		78	79							157
03:00		68	68							136
04:00		91	65							156
05:00		117	73							190
06:00		95	71							166
07:00		60	33							93
08:00		64	22							86
09:00		42	18							60
10:00		32	10							42
11:00		19	5							24
Total		990	1072							2062
Percent		48.0%	52.0%							
AM Peak	-	09:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	44	116	-	-	-	-	-	-	143
PM Peak	-	17:00	14:00	-	-	-	-	-	-	17:00
Vol.	-	117	79	-	-	-	-	-	-	190
Grand Total		990	1072							2062
Percent		48.0%	52.0%							
ADT		ADT 2,062	AADT 2,062							

Site Code: 18
18. HENKEL WAY N.O LOOP 101 WB FRONTAGE

Start Time	18-Oct-23 Wed	NB	SB							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		2	0							2
05:00		1	0							1
06:00		1	0							1
07:00		5	3							8
08:00		2	1							3
09:00		2	2							4
10:00		2	3							5
11:00		3	1							4
12:00 PM		0	3							3
01:00		2	2							4
02:00		0	5							5
03:00		7	12							19
04:00		0	11							11
05:00		1	5							6
06:00		1	4							5
07:00		0	1							1
08:00		0	0							0
09:00		0	1							1
10:00		0	1							1
11:00		0	0							0
Total		29	55							84
Percent		34.5%	65.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	5	3	-	-	-	-	-	-	8
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	7	12	-	-	-	-	-	-	19
Grand Total		29	55							84
Percent		34.5%	65.5%							
ADT		ADT 84		AADT 84						



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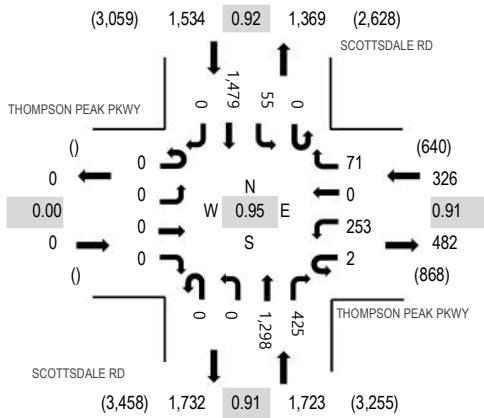
Location: 1 SCOTTSDALE RD & THOMPSON PEAK PKWY AM

Date: Thursday, October 19, 2023

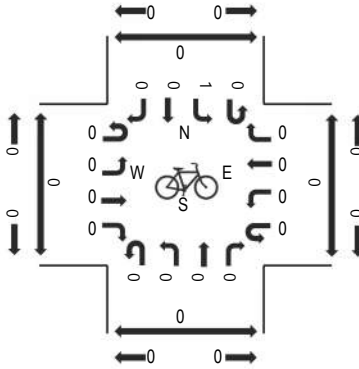
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

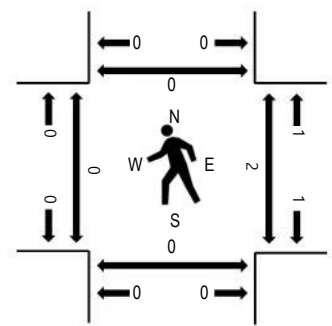
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	THOMPSON PEAK PKWY				THOMPSON PEAK PKWY				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	0	0	0	2	55	0	12	0	0	271	63	0	8	354	0	765	3,498	0	0	0	0
7:15 AM	0	0	0	0	0	51	0	10	0	0	279	99	0	9	424	0	872	3,575	0	0	0	0
7:30 AM	0	0	0	0	0	63	0	12	0	0	349	92	0	4	398	0	918	3,583	0	2	0	0
7:45 AM	0	0	0	0	0	60	0	21	0	0	357	114	0	18	373	0	943	3,576	0	0	0	0
8:00 AM	0	0	0	0	1	68	0	18	0	0	287	113	0	17	338	0	842	3,456	0	0	0	0
8:15 AM	0	0	0	0	1	62	0	20	0	0	305	106	0	16	370	0	880		0	0	0	0
8:30 AM	0	0	0	0	2	69	0	16	0	0	343	79	0	13	389	0	911		0	0	0	0
8:45 AM	0	0	0	0	2	74	0	21	0	0	307	91	0	18	310	0	823		0	0	0	0
Count Total	0	0	0	0	8	502	0	130	0	0	2,498	757	0	103	2,956	0	6,954		0	2	0	0
Peak Hour	0	0	0	0	2	253	0	71	0	0	1,298	425	0	55	1,479	0	3,583		0	2	0	0



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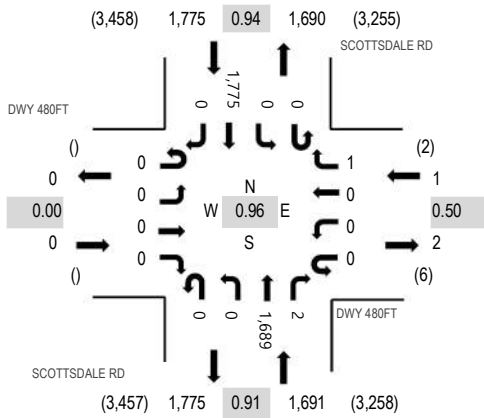
Location: 2 SCOTTSDALE RD & DWY 480FT AM

Date: Thursday, October 19, 2023

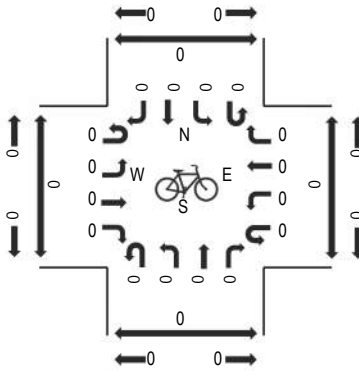
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

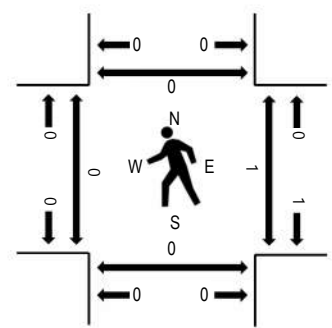
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 480FT Eastbound				DWY 480FT Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	0	1	0	0	333	1	0	0	409	0	744	3,404	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	377	0	0	0	475	0	853	3,467	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	441	0	0	0	461	0	902	3,457	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	471	1	0	0	433	0	905	3,435	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	400	1	0	0	406	0	807	3,314	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	411	0	0	1	431	0	843		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	422	0	0	0	458	0	880		0	1	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	398	2	0	0	384	0	784		0	0	0	0
Count Total	0	0	0	0	0	0	0	2	0	0	3,253	5	0	1	3,457	0	6,718		0	2	0	0
Peak Hour	0	0	0	0	0	0	0	1	0	0	1,689	2	0	0	1,775	0	3,467		0	1	0	0

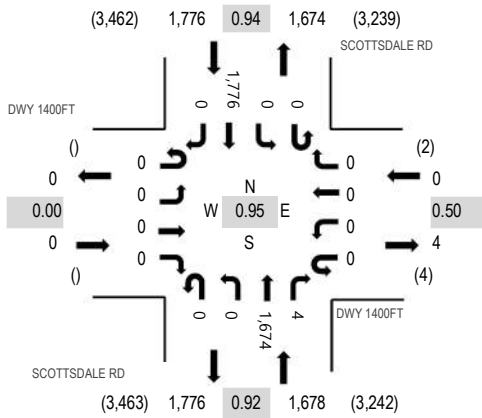
Location: 4 SCOTTSDALE RD & DWY 1400FT AM

Date: Thursday, October 19, 2023

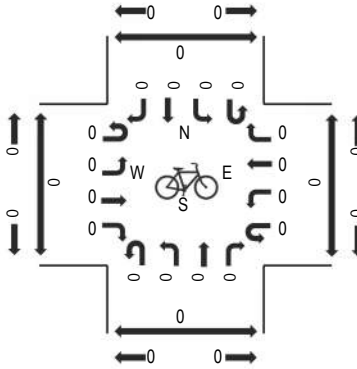
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

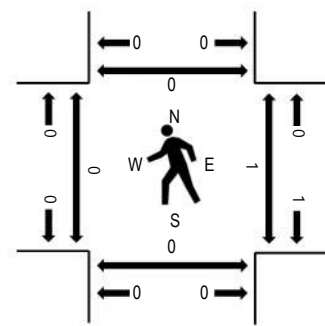
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 1400FT				DWY 1400FT				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	0	0	0	0	0	0	0	0	0	330	0	0	0	409	0	739	3,388	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	368	0	0	0	475	0	843	3,454	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	440	2	0	0	463	0	905	3,454	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	470	0	0	0	431	0	901	3,432	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	396	2	0	0	407	0	805	3,318	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	411	0	0	0	431	0	843		0	1	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	422	0	0	0	460	0	883		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	401	0	0	0	386	0	787		0	0	0	0
Count Total	0	0	0	0	0	1	0	1	0	0	3,238	4	0	0	3,462	0	6,706		0	2	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1,674	4	0	0	1,776	0	3,454		0	1	0	0



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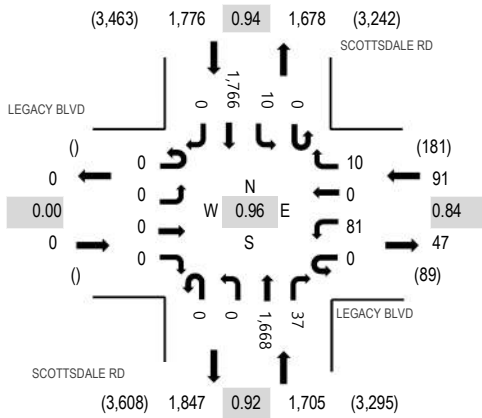
Location: 5 SCOTTSDALE RD & LEGACY BLVD AM

Date: Thursday, October 19, 2023

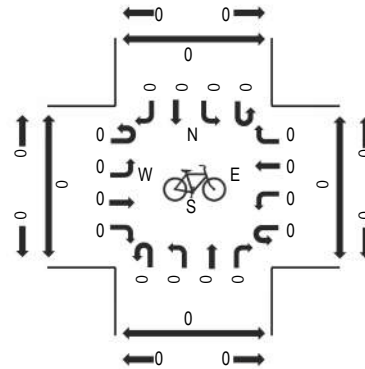
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

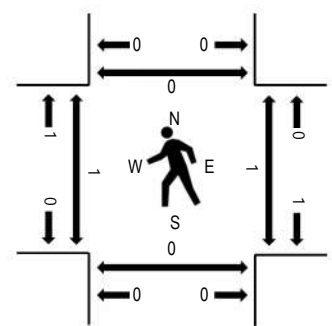
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	27	0	3	0	0	327	14	0	1	408	0	780	3,517	0	0	0	0
7:15 AM	0	0	0	0	0	24	0	2	0	0	366	7	0	1	474	0	874	3,572	0	0	0	0
7:30 AM	0	0	0	0	0	17	0	5	0	0	437	10	0	3	460	0	932	3,561	0	0	0	0
7:45 AM	0	0	0	0	0	21	0	2	0	0	468	9	0	5	426	0	931	3,540	1	1	0	0
8:00 AM	0	0	0	0	0	19	0	1	0	0	397	11	0	1	406	0	835	3,422	0	0	0	0
8:15 AM	0	0	0	0	0	13	0	1	0	0	410	8	0	1	430	0	863		0	0	0	0
8:30 AM	0	0	0	0	0	21	0	4	0	0	418	7	0	2	459	0	911		0	0	0	0
8:45 AM	0	0	0	0	0	18	0	3	0	0	398	8	0	1	385	0	813		0	0	0	0
Count Total	0	0	0	0	0	160	0	21	0	0	3,221	74	0	15	3,448	0	6,939		1	1	0	0
Peak Hour	0	0	0	0	0	81	0	10	0	0	1,668	37	0	10	1,766	0	3,572		1	1	0	0



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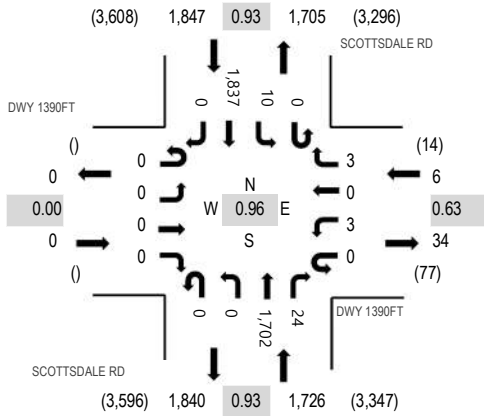
Location: 6 SCOTTSDALE RD & DWY 1390FT AM

Date: Thursday, October 19, 2023

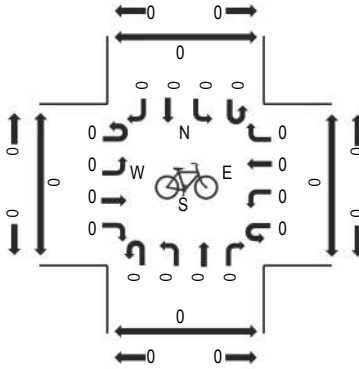
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

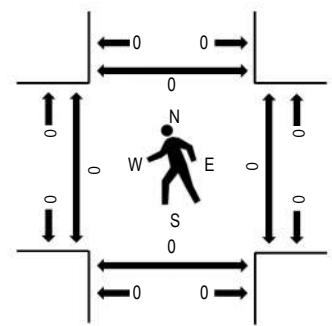
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 1390FT Eastbound				DWY 1390FT Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	2	0	0	0	0	341	8	0	1	434	0	786	3,520	0	1	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	373	7	0	3	495	0	878	3,579	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	446	5	0	1	476	0	929	3,573	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	475	3	0	3	444	0	927	3,554	0	0	0	0
8:00 AM	0	0	0	0	0	3	0	0	0	0	408	9	0	3	422	0	845	3,449	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	418	10	1	2	440	0	872		0	1	0	0
8:30 AM	0	0	0	0	0	1	0	3	0	0	422	4	0	4	476	0	910		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	405	13	0	1	402	0	822		0	0	0	0
Count Total	0	0	0	0	0	7	0	7	0	0	3,288	59	1	18	3,589	0	6,969		0	2	0	0
Peak Hour	0	0	0	0	0	3	0	3	0	0	1,702	24	0	10	1,837	0	3,579		0	0	0	0



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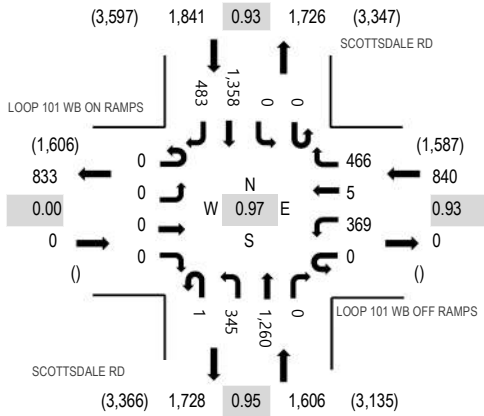
Location: 7 SCOTTSDALE RD & LOOP 101 WB OFF RAMPS AM

Date: Thursday, October 19, 2023

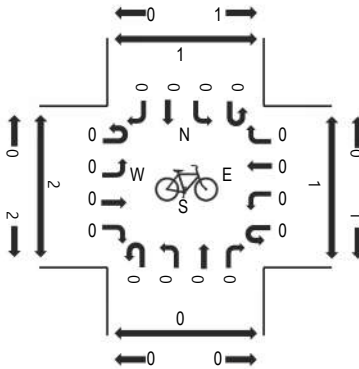
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

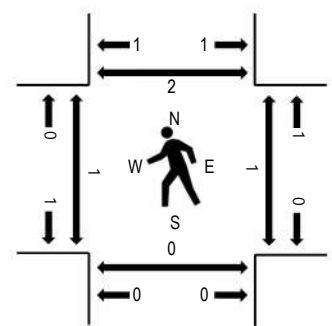
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 WB ON RAMPS				LOOP 101 WB OFF RAMPS				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	0	0	0	0	60	2	79	0	62	270	0	0	0	326	110	909	4,172	1	1	0	1
7:15 AM	0	0	0	0	0	78	2	107	0	99	273	0	0	0	364	132	1,055	4,287	0	0	0	0
7:30 AM	0	0	0	0	0	92	0	121	1	82	330	0	0	0	369	107	1,102	4,276	0	1	0	2
7:45 AM	0	0	0	0	0	98	1	130	0	85	348	0	0	0	319	125	1,106	4,255	0	0	0	0
8:00 AM	0	0	0	0	0	101	2	108	0	79	309	0	0	0	306	119	1,024	4,147	1	0	0	0
8:15 AM	0	0	0	0	0	89	0	105	0	86	323	0	0	0	319	122	1,044		0	0	0	0
8:30 AM	0	0	0	0	0	110	2	102	0	66	324	0	0	0	352	125	1,081		2	1	0	2
8:45 AM	0	0	0	0	0	92	2	104	1	83	314	0	0	0	289	113	998		0	1	0	0
Count Total	0	0	0	0	0	720	11	856	2	642	2,491	0	0	0	2,644	953	8,319		4	4	0	5
Peak Hour	0	0	0	0	0	369	5	466	1	345	1,260	0	0	0	1,358	483	4,287		1	1	0	2



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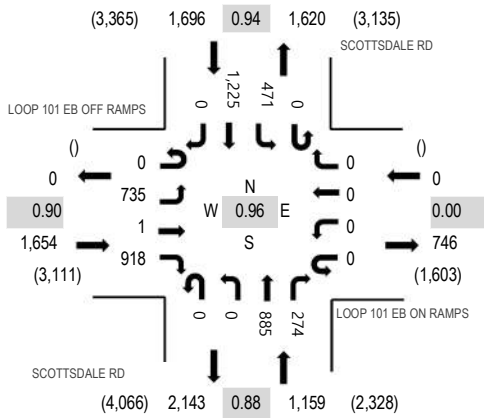
Location: 8 SCOTTSDALE RD & LOOP 101 EB ON RAMPs AM

Date: Thursday, October 19, 2023

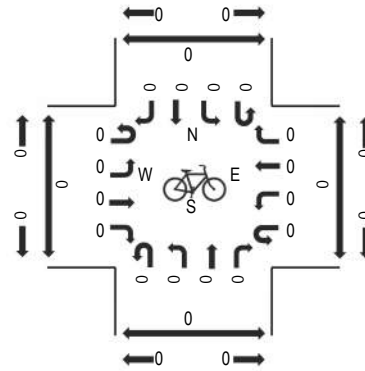
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

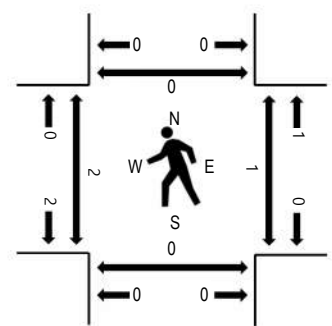
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 EB OFF RAMPs				LOOP 101 EB ON RAMPs				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	155	2	190	0	0	0	0	0	0	177	59	0	121	265	0	969	4,305	1	2	0	0
7:15 AM	0	154	2	199	0	0	0	0	0	0	218	74	0	160	281	0	1,088	4,459	0	0	0	0
7:30 AM	0	183	1	186	0	0	0	0	0	0	230	73	0	179	282	0	1,134	4,472	0	0	0	0
7:45 AM	0	163	0	192	0	0	0	0	0	0	270	72	0	143	274	0	1,114	4,509	0	0	0	0
8:00 AM	0	207	0	261	0	0	0	0	0	0	181	67	0	89	318	0	1,123	4,499	0	0	0	0
8:15 AM	0	157	0	220	0	0	0	0	0	0	252	64	0	112	296	0	1,101		2	1	0	0
8:30 AM	0	208	1	245	0	0	0	0	0	0	182	71	0	127	337	0	1,171		0	0	0	0
8:45 AM	0	133	1	251	0	0	0	0	0	0	265	73	0	112	269	0	1,104		0	2	0	0
Count Total	0	1,360	7	1,744	0	0	0	0	0	0	1,775	553	0	1,043	2,322	0	8,804		3	5	0	0
Peak Hour	0	735	1	918	0	0	0	0	0	0	885	274	0	471	1,225	0	4,509		2	1	0	0



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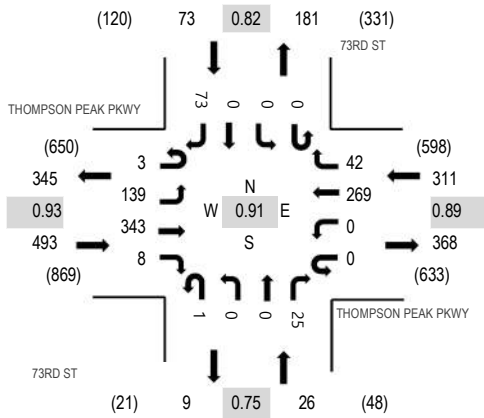
Location: 9 73RD ST & THOMPSON PEAK PKWY AM

Date: Thursday, October 19, 2023

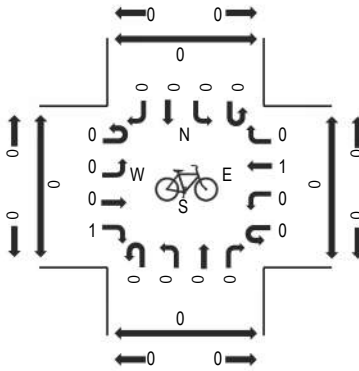
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

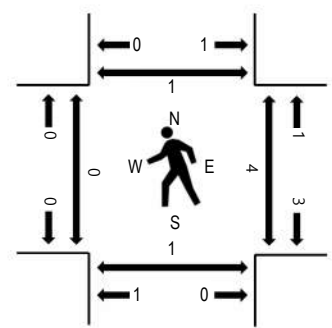
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	THOMPSON PEAK PKWY				THOMPSON PEAK PKWY				73RD ST				73RD ST				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	29	44	3	0	0	51	6	1	0	0	5	0	0	0	8	147	771	0	0	0	0
7:15 AM	2	31	65	2	0	0	51	10	0	0	0	3	0	0	0	14	178	854	0	0	0	2
7:30 AM	0	33	80	0	0	0	53	10	1	0	0	5	0	0	0	17	199	903	0	0	1	1
7:45 AM	1	35	92	2	0	0	77	16	0	0	0	3	0	0	0	21	247	894	0	1	0	0
8:00 AM	2	42	84	4	0	0	61	7	0	0	0	7	0	0	0	23	230	864	0	2	0	0
8:15 AM	0	29	87	2	0	0	78	9	0	0	0	10	0	0	0	12	227		0	1	0	0
8:30 AM	0	34	57	3	0	0	73	9	0	0	0	6	0	0	0	8	190		0	0	0	0
8:45 AM	0	25	78	3	0	0	81	6	0	0	0	7	0	0	0	17	217		0	0	0	0
Count Total	5	258	587	19	0	0	525	73	2	0	0	46	0	0	0	120	1,635		0	4	1	3
Peak Hour	3	139	343	8	0	0	269	42	1	0	0	25	0	0	0	73	903		0	4	1	1



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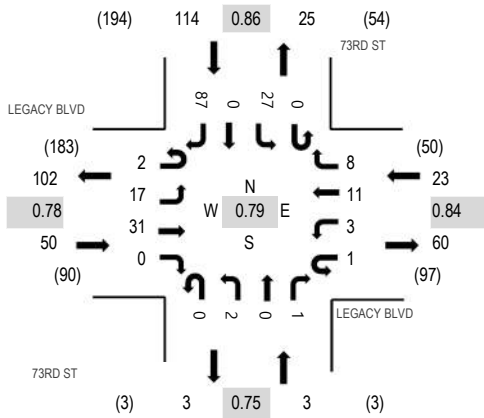
Location: 10 73RD ST & LEGACY BLVD AM

Date: Thursday, October 19, 2023

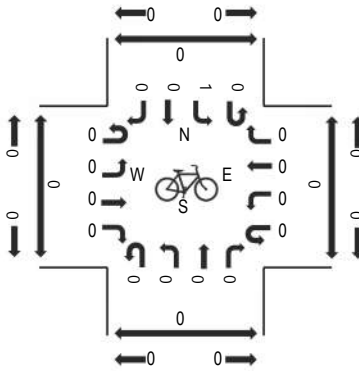
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

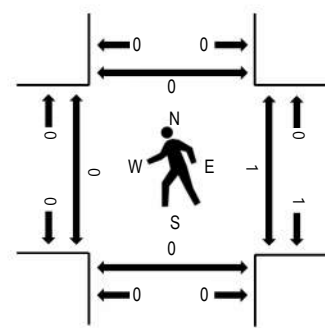
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				73RD ST Northbound				73RD ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	6	10	0	1	3	5	3	0	0	0	1	0	4	0	27	60	190	0	0	0	0
7:15 AM	2	4	3	0	0	0	0	1	0	1	0	0	0	9	0	21	41	172	0	1	0	0
7:30 AM	0	4	9	0	0	0	3	3	0	0	0	0	0	10	0	23	52	157	0	0	0	0
7:45 AM	0	3	9	0	0	0	3	1	0	1	0	0	0	4	0	16	37	151	0	0	0	0
8:00 AM	0	7	6	0	1	0	4	3	0	0	0	0	0	4	0	17	42	147	0	0	0	0
8:15 AM	1	3	5	0	0	0	4	2	0	0	0	0	0	2	0	9	26		0	0	1	0
8:30 AM	0	7	3	0	1	0	2	2	0	0	0	0	0	5	0	26	46		0	0	0	0
8:45 AM	0	3	5	0	1	0	5	2	0	0	0	0	0	4	0	13	33		0	0	0	0
Count Total	3	37	50	0	4	3	26	17	0	2	0	1	0	42	0	152	337		0	1	1	0
Peak Hour	2	17	31	0	1	3	11	8	0	2	0	1	0	27	0	87	190		0	1	0	0



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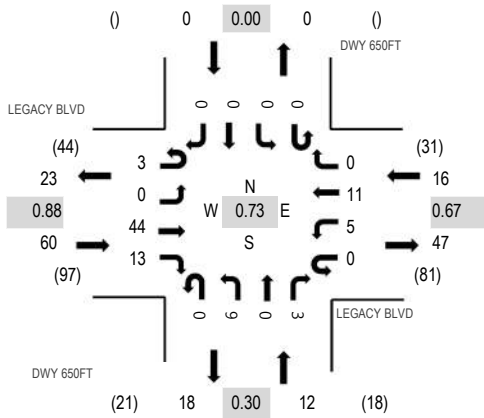
Location: 11 DWY 650FT & LEGACY BLVD AM

Date: Thursday, October 19, 2023

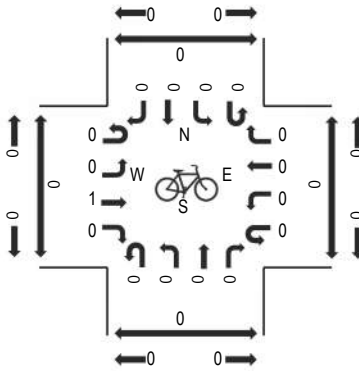
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

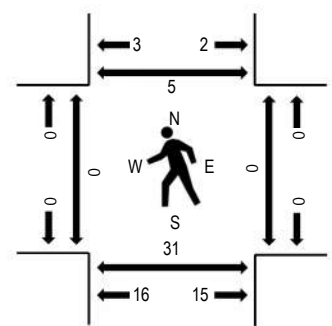
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				DWY 650FT Northbound				DWY 650FT Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	2	0	9	3	0	3	3	0	0	7	0	3	0	0	0	0	30	88	0	0	17	2
7:15 AM	0	0	8	5	0	1	1	0	0	0	0	0	0	0	0	0	15	75	0	0	11	3
7:30 AM	0	0	15	2	0	0	5	0	0	1	0	0	0	0	0	0	23	72	0	0	1	0
7:45 AM	1	0	12	3	0	1	2	0	0	1	0	0	0	0	0	0	20	61	0	0	2	0
8:00 AM	2	0	9	0	0	1	3	0	0	1	0	1	0	0	0	0	17	58	0	0	4	3
8:15 AM	0	0	7	0	0	0	4	0	0	1	0	0	0	0	0	0	12		0	0	3	2
8:30 AM	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	12		0	0	4	1
8:45 AM	0	0	9	2	0	0	3	0	0	3	0	0	0	0	0	0	17		0	0	0	0
Count Total	5	0	77	15	0	6	25	0	0	14	0	4	0	0	0	0	146		0	0	42	11
Peak Hour	3	0	44	13	0	5	11	0	0	9	0	3	0	0	0	0	88		0	0	31	5



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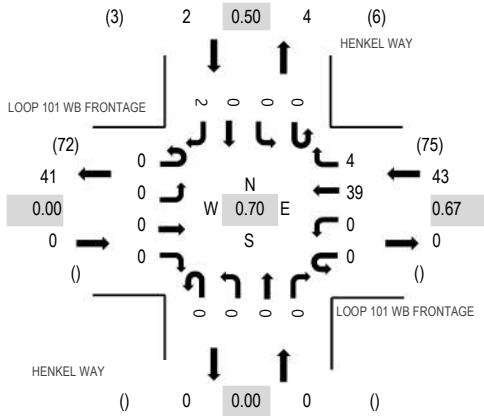
Location: 12 HENKEL WAY & LOOP 101 WB FRONTAGE AM

Date: Thursday, October 19, 2023

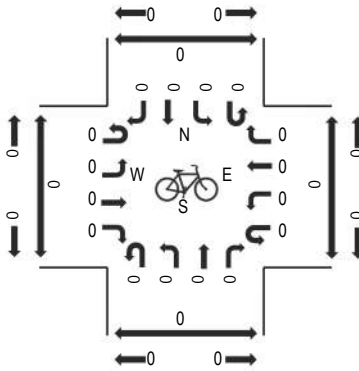
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

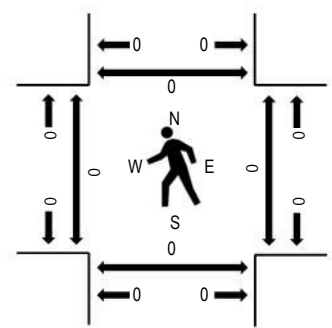
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 WB FRONTAGE Eastbound				LOOP 101 WB FRONTAGE Westbound				HENKEL WAY Northbound				HENKEL WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	6	45	0	0	0	0
7:15 AM	0	0	0	0	0	0	13	3	0	0	0	0	0	0	0	0	16	45	0	0	0	0
7:30 AM	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	1	12	37	0	0	0	0
7:45 AM	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1	11	34	0	0	0	0
8:00 AM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	33	0	0	0	0
8:15 AM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	8		0	0	0	0
8:30 AM	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9		0	0	0	0
8:45 AM	0	0	0	0	0	0	7	2	0	0	0	0	0	0	0	1	10		0	0	0	0
Count Total	0	0	0	0	0	0	69	6	0	0	0	0	0	0	0	3	78		0	0	0	0
Peak Hour	0	0	0	0	0	0	39	4	0	0	0	0	0	0	0	2	45		0	0	0	0



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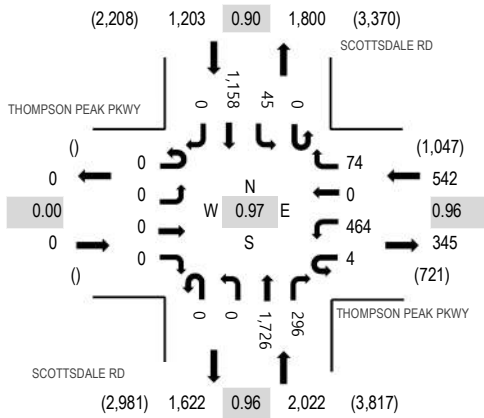
Location: 1 SCOTTSDALE RD & THOMPSON PEAK PKWY PM

Date: Thursday, October 19, 2023

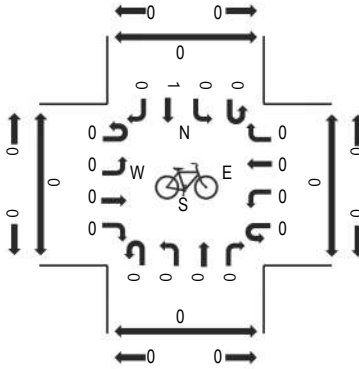
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:45 PM - 05:00 PM

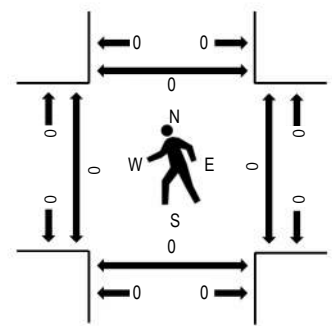
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	THOMPSON PEAK PKWY				THOMPSON PEAK PKWY				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	0	0	0	2	112	0	32	0	0	367	73	0	12	245	0	843	3,629	0	0	0	0
4:15 PM	0	0	0	0	4	118	0	13	0	0	417	73	0	16	251	0	892	3,755	0	0	0	0
4:30 PM	0	0	0	0	1	108	0	24	0	0	435	67	0	7	278	0	920	3,767	0	0	0	0
4:45 PM	0	0	0	0	1	125	0	19	0	0	447	77	0	13	292	0	974	3,670	0	0	0	0
5:00 PM	0	0	0	0	1	121	0	12	0	0	434	65	0	11	325	0	969	3,443	0	0	0	0
5:15 PM	0	0	0	0	1	110	0	19	0	0	410	87	0	14	263	0	904		0	0	0	0
5:30 PM	0	0	0	0	0	100	0	16	0	0	374	76	0	14	243	0	823		0	0	0	0
5:45 PM	0	0	0	0	0	83	0	25	0	0	326	89	0	17	207	0	747		0	0	0	0
Count Total	0	0	0	0	10	877	0	160	0	0	3,210	607	0	104	2,104	0	7,072		0	0	0	0
Peak Hour	0	0	0	0	4	464	0	74	0	0	1,726	296	0	45	1,158	0	3,767		0	0	0	0



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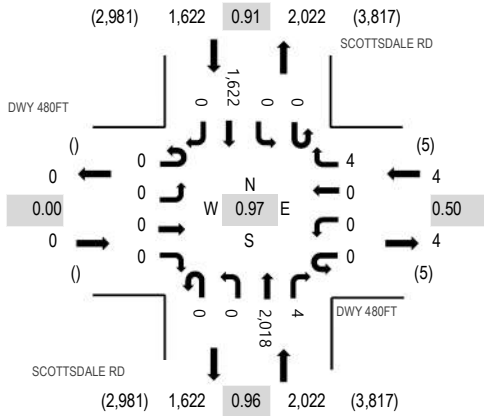
Location: 2 SCOTTSDALE RD & DWY 480FT PM

Date: Thursday, October 19, 2023

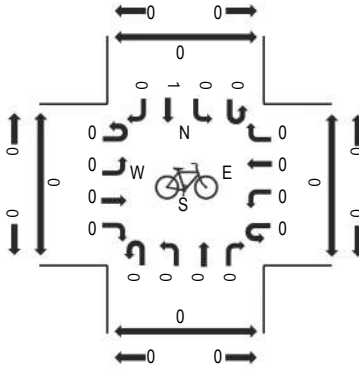
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

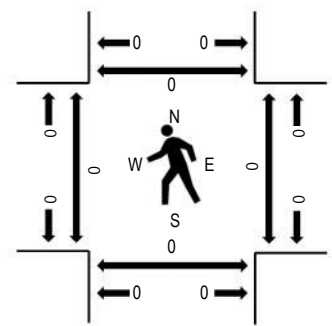
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 480FT Eastbound				DWY 480FT Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	0	440	0	0	0	357	0	797	3,488	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	490	0	0	0	369	0	859	3,636	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	2	0	0	500	2	0	0	386	0	890	3,648	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	523	1	0	0	417	0	942	3,551	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	499	0	0	0	446	0	945	3,315	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	496	1	0	0	373	0	871		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	450	0	0	0	343	0	793		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	414	1	0	0	290	0	706		0	1	0	0
Count Total	0	0	0	0	0	0	0	5	0	0	3,812	5	0	0	2,981	0	6,803		0	1	0	0
Peak Hour	0	0	0	0	0	0	0	4	0	0	2,018	4	0	0	1,622	0	3,648		0	0	0	0



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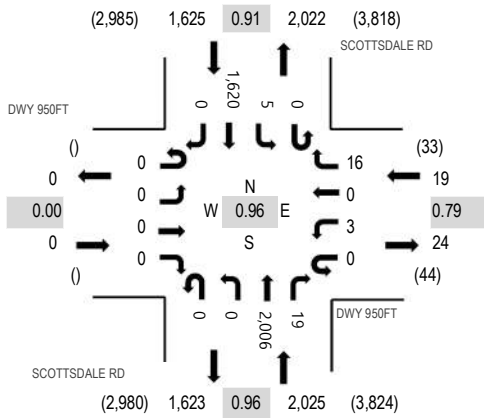
Location: 3 SCOTTSDALE RD & DWY 950FT PM

Date: Thursday, October 19, 2023

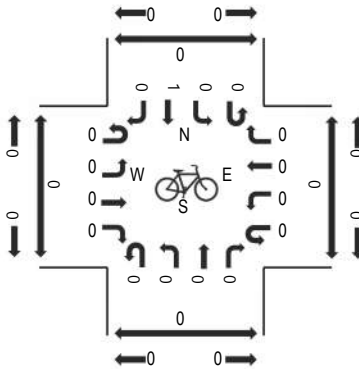
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

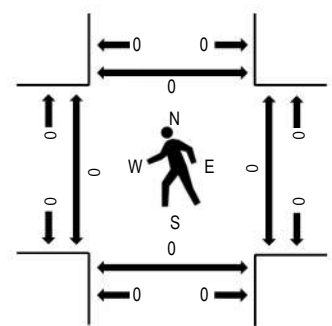
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 950FT Eastbound				DWY 950FT Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	1	0	4	0	0	436	4	0	1	357	0	803	3,512	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	488	8	0	0	369	0	867	3,663	0	0	0	0
4:30 PM	0	0	0	0	0	2	0	2	0	0	500	2	0	0	388	0	894	3,669	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	5	0	0	519	7	0	1	416	0	948	3,568	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	3	0	0	496	7	0	1	446	0	954	3,330	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	6	0	0	491	3	0	3	370	0	873		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	3	0	0	447	0	1	1	341	0	793		0	1	0	0
5:45 PM	0	0	0	0	0	0	0	4	0	0	411	5	0	1	289	0	710		0	0	0	0
Count Total	0	0	0	0	0	4	0	29	0	0	3,788	36	1	8	2,976	0	6,842		0	1	0	0
Peak Hour	0	0	0	0	0	3	0	16	0	0	2,006	19	0	5	1,620	0	3,669		0	0	0	0

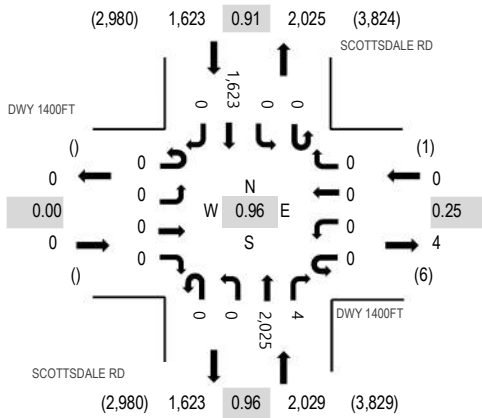
Location: 4 SCOTTSDALE RD & DWY 1400FT PM

Date: Thursday, October 19, 2023

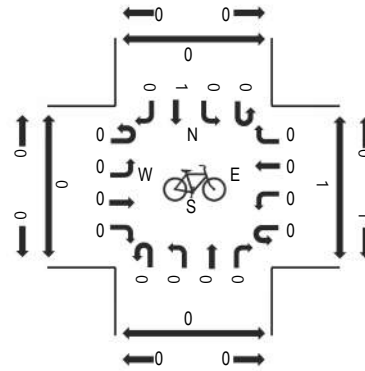
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

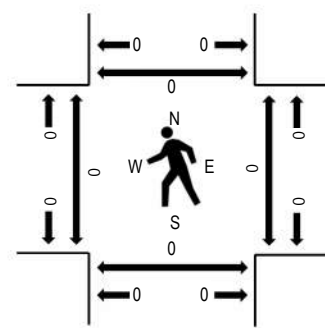
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 1400FT				DWY 1400FT				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	0	0	0	0	0	0	0	0	0	440	1	0	0	358	0	799	3,500	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	495	0	0	0	369	0	865	3,651	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	502	0	0	0	390	0	892	3,652	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	526	2	0	0	416	0	944	3,548	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	503	0	0	0	447	0	950	3,310	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	494	2	0	0	370	0	866		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	447	0	0	0	341	0	788		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	416	1	0	0	289	0	706		0	1	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	3,823	6	0	0	2,980	0	6,810		0	1	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	2,025	4	0	0	1,623	0	3,652		0	0	0	0



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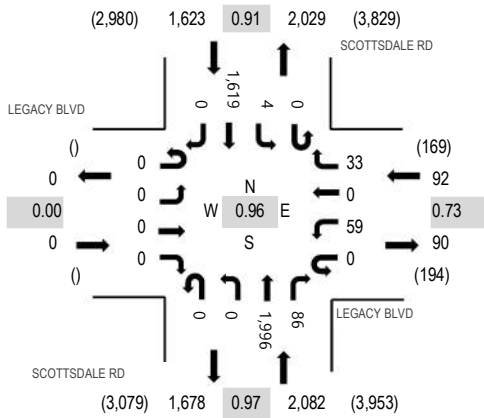
Location: 5 SCOTTSDALE RD & LEGACY BLVD PM

Date: Thursday, October 19, 2023

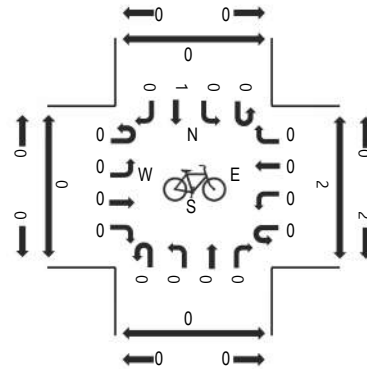
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

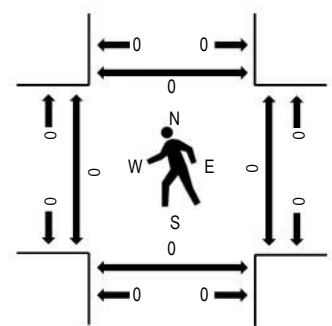
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	13	0	4	0	0	437	17	0	3	355	0	829	3,623	0	0	0	0
4:15 PM	0	0	0	0	0	13	0	4	0	0	491	22	0	3	366	0	899	3,785	0	0	0	0
4:30 PM	0	0	0	0	0	21	0	6	0	0	496	18	0	1	389	0	931	3,797	0	0	0	0
4:45 PM	0	0	0	0	0	7	0	7	0	0	521	13	0	0	416	0	964	3,693	0	0	0	0
5:00 PM	0	0	0	0	0	17	0	15	0	0	488	24	0	2	445	0	991	3,479	0	0	0	0
5:15 PM	0	0	0	0	0	14	0	5	0	0	491	31	0	1	369	0	911		0	0	0	0
5:30 PM	0	0	0	0	0	14	0	6	0	0	441	25	0	3	338	0	827		0	0	0	0
5:45 PM	0	0	0	0	0	15	0	8	0	0	409	29	0	2	287	0	750		0	0	0	0
Count Total	0	0	0	0	0	114	0	55	0	0	3,774	179	0	15	2,965	0	7,102		0	0	0	0
Peak Hour	0	0	0	0	0	59	0	33	0	0	1,996	86	0	4	1,619	0	3,797		0	0	0	0



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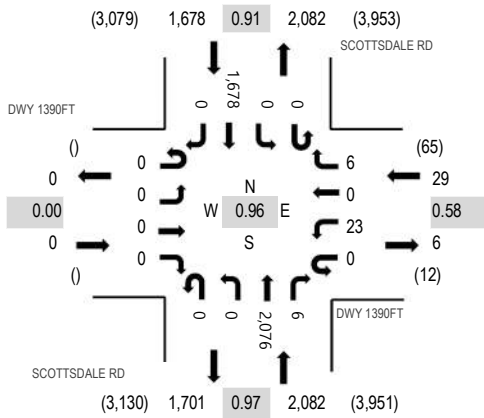
Location: 6 SCOTTSDALE RD & DWY 1390FT PM

Date: Thursday, October 19, 2023

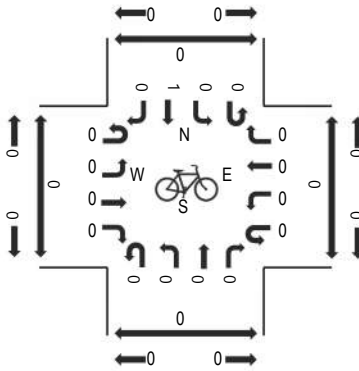
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

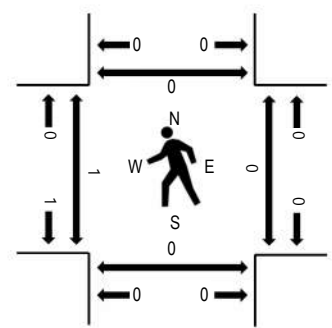
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DWY 1390FT Eastbound				DWY 1390FT Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	10	0	5	0	0	449	2	0	0	368	0	834	3,626	0	0	0	0
4:15 PM	0	0	0	0	0	8	0	2	0	0	511	1	0	0	379	0	901	3,778	0	0	0	0
4:30 PM	0	0	0	0	0	2	0	2	0	0	512	0	0	0	410	0	926	3,789	1	0	0	0
4:45 PM	0	0	0	0	0	6	0	0	0	0	534	2	0	0	423	0	965	3,691	0	0	0	0
5:00 PM	0	0	0	0	0	10	0	2	0	0	510	2	0	0	462	0	986	3,469	0	0	0	0
5:15 PM	0	0	0	0	0	5	0	2	0	0	520	2	0	0	383	0	912		0	0	0	0
5:30 PM	0	0	0	0	0	9	0	1	0	0	465	1	0	0	352	0	828		0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	438	2	0	0	302	0	743		0	0	0	0
Count Total	0	0	0	0	0	51	0	14	0	0	3,939	12	0	0	3,079	0	7,095		1	0	0	0
Peak Hour	0	0	0	0	0	23	0	6	0	0	2,076	6	0	0	1,678	0	3,789		1	0	0	0



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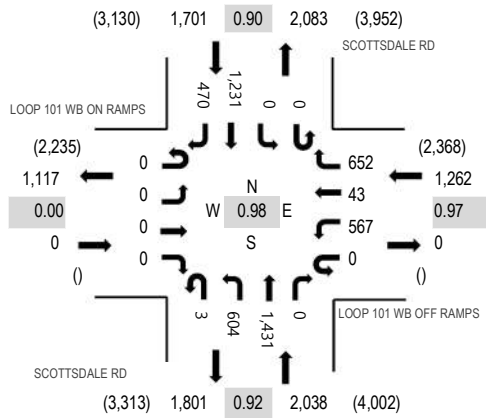
Location: 7 SCOTTSDALE RD & LOOP 101 WB OFF RAMPS PM

Date: Thursday, October 19, 2023

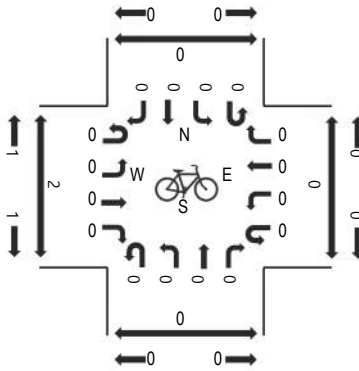
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

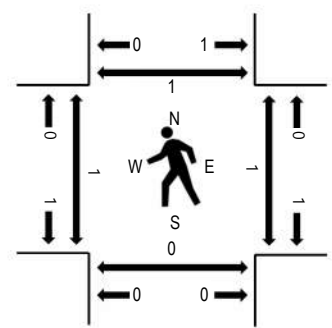
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 WB ON RAMPS				LOOP 101 WB OFF RAMPS				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	0	0	0	0	125	15	134	0	179	317	0	0	0	237	141	1,148	4,809	0	0	0	0
4:15 PM	0	0	0	0	0	128	11	145	0	157	367	0	0	0	273	114	1,195	4,936	0	1	0	0
4:30 PM	0	0	0	0	0	141	12	166	0	151	347	0	0	0	294	118	1,229	5,001	0	0	0	0
4:45 PM	0	0	0	0	0	130	11	162	1	130	374	0	0	0	307	122	1,237	4,893	1	0	0	0
5:00 PM	0	0	0	0	0	134	16	174	0	141	338	0	0	0	333	139	1,275	4,691	0	1	0	1
5:15 PM	0	0	0	0	0	162	4	150	2	182	372	0	0	0	297	91	1,260		0	0	0	0
5:30 PM	0	0	0	0	0	150	4	138	0	140	328	0	0	0	250	111	1,121		0	0	0	0
5:45 PM	0	0	0	0	0	148	2	106	1	141	334	0	0	0	200	103	1,035		1	1	0	0
Count Total	0	0	0	0	0	1,118	75	1,175	4	1,221	2,777	0	0	0	2,191	939	9,500		2	3	0	1
Peak Hour	0	0	0	0	0	567	43	652	3	604	1,431	0	0	0	1,231	470	5,001		1	1	0	1



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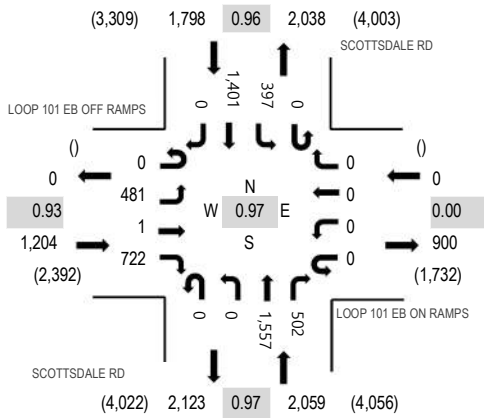
Location: 8 SCOTTSDALE RD & LOOP 101 EB ON RAMPs PM

Date: Thursday, October 19, 2023

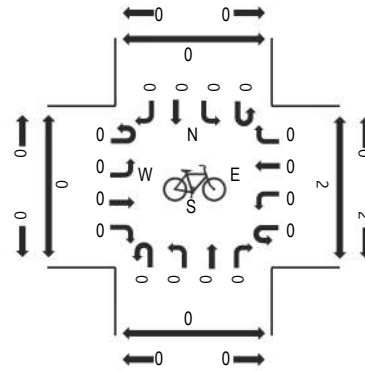
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

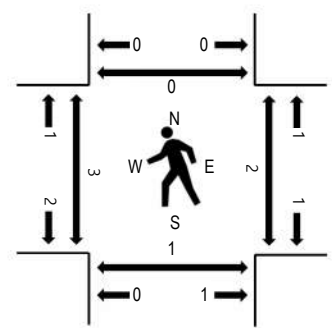
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 EB OFF RAMPs				LOOP 101 EB ON RAMPs				SCOTTSDALE RD				SCOTTSDALE RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	98	0	177	0	0	0	0	0	0	398	135	0	96	266	0	1,170	4,930	0	0	0	0
4:15 PM	0	129	1	191	0	0	0	0	0	0	395	122	0	79	322	0	1,239	5,000	1	1	0	0
4:30 PM	0	112	0	193	0	0	0	0	0	0	386	126	0	92	343	0	1,252	5,061	0	0	0	0
4:45 PM	0	129	0	203	0	0	0	0	0	0	376	124	0	93	344	0	1,269	4,996	2	0	0	0
5:00 PM	0	103	1	159	0	0	0	0	0	0	376	134	0	104	363	0	1,240	4,827	0	0	0	0
5:15 PM	0	137	0	167	0	0	0	0	0	0	419	118	0	108	351	0	1,300		1	2	1	0
5:30 PM	0	105	1	193	0	0	0	0	0	0	363	125	0	90	310	0	1,187		0	0	0	0
5:45 PM	0	124	1	168	0	0	0	0	0	0	352	107	1	75	272	0	1,100		0	0	0	0
Count Total	0	937	4	1,451	0	0	0	0	0	0	3,065	991	1	737	2,571	0	9,757		4	3	1	0
Peak Hour	0	481	1	722	0	0	0	0	0	0	1,557	502	0	397	1,401	0	5,061		3	2	1	0



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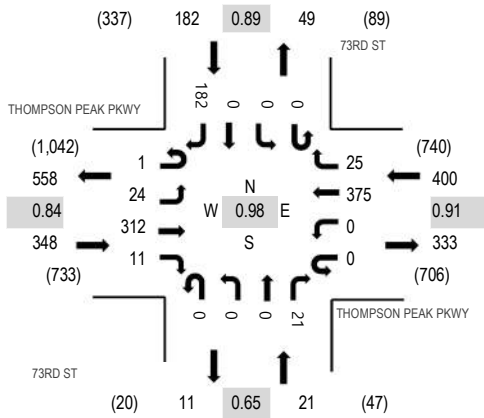
Location: 9 73RD ST & THOMPSON PEAK PKWY PM

Date: Thursday, October 19, 2023

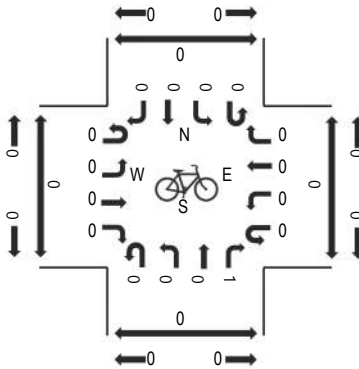
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

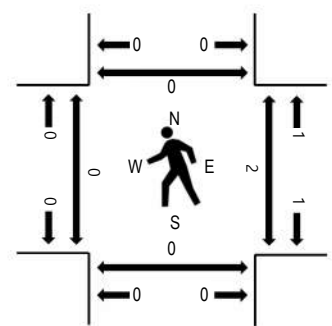
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	THOMPSON PEAK PKWY Eastbound				THOMPSON PEAK PKWY Westbound				73RD ST Northbound				73RD ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	3	73	1	0	0	106	4	0	0	0	5	0	0	0	51	243	951	0	1	0	0
4:15 PM	0	7	91	3	0	0	81	5	0	0	0	5	0	0	0	41	233	926	0	0	0	0
4:30 PM	1	6	65	4	0	0	99	7	0	0	0	6	0	0	0	49	237	925	0	1	0	0
4:45 PM	0	8	83	3	0	0	89	9	0	0	0	5	0	0	0	41	238	914	0	0	0	0
5:00 PM	2	3	66	5	0	0	87	5	0	0	0	8	0	0	0	42	218	906	0	1	0	0
5:15 PM	1	5	106	2	0	0	75	1	0	0	0	1	0	0	0	41	232		1	1	0	1
5:30 PM	0	6	74	1	0	0	86	4	0	0	0	10	0	0	0	45	226		0	0	0	1
5:45 PM	0	12	101	1	0	0	78	4	0	0	0	7	0	0	0	27	230		0	2	1	2
Count Total	4	50	659	20	0	0	701	39	0	0	0	47	0	0	0	337	1,857		1	6	1	4
Peak Hour	1	24	312	11	0	0	375	25	0	0	0	21	0	0	0	182	951		0	2	0	0



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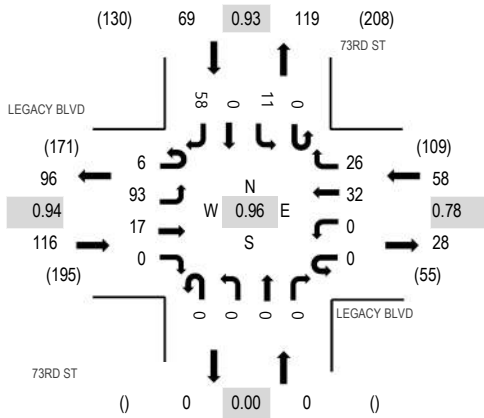
Location: 10 73RD ST & LEGACY BLVD PM

Date: Thursday, October 19, 2023

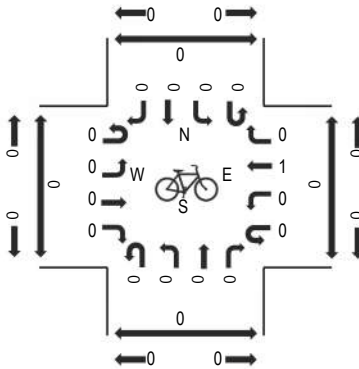
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

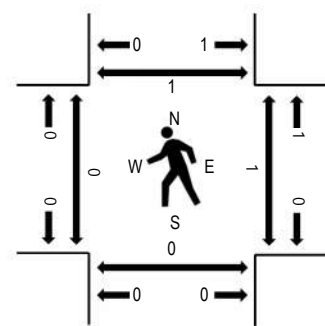
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				73RD ST Northbound				73RD ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	16	5	0	0	0	4	7	0	0	0	0	0	6	0	9	48	191	0	0	0	0
4:15 PM	1	20	5	0	0	0	7	8	0	0	0	0	0	2	0	10	53	206	0	0	0	0
4:30 PM	0	16	3	0	0	0	10	6	0	0	0	0	0	1	0	18	54	216	0	1	0	0
4:45 PM	0	12	0	0	0	0	5	4	0	0	0	0	0	5	0	10	36	219	0	0	0	0
5:00 PM	1	21	3	0	0	0	10	9	0	0	0	0	0	1	0	18	63	243	0	0	0	0
5:15 PM	2	23	6	0	0	0	7	7	0	0	0	0	0	4	0	14	63		0	1	0	0
5:30 PM	1	24	4	0	0	0	7	6	0	0	0	0	0	3	0	12	57		0	0	0	0
5:45 PM	2	25	4	0	0	0	8	4	0	0	0	0	0	3	0	14	60		0	0	0	1
Count Total	8	157	30	0	0	0	58	51	0	0	0	0	0	25	0	105	434		0	2	0	1
Peak Hour	6	93	17	0	0	0	32	26	0	0	0	0	0	11	0	58	243		0	1	0	1



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www.alltrafficdata.net

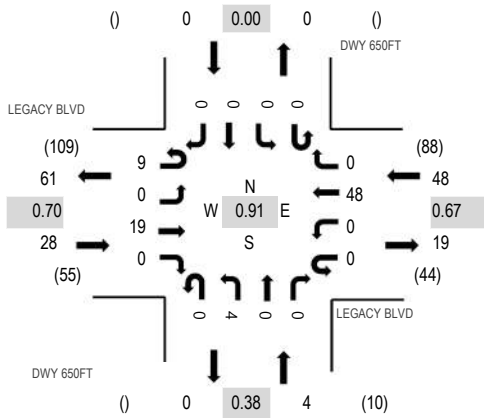
Location: 11 DWY 650FT & LEGACY BLVD PM

Date: Thursday, October 19, 2023

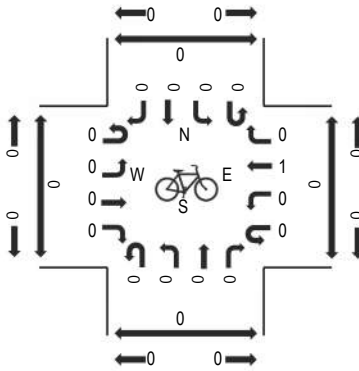
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

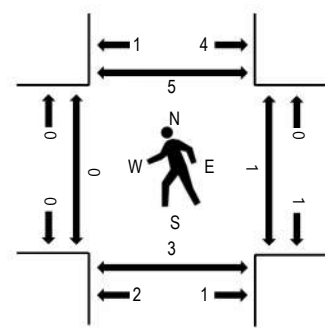
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LEGACY BLVD Eastbound				LEGACY BLVD Westbound				DWY 650FT Northbound				DWY 650FT Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	2	0	10	0	0	0	8	0	0	0	0	0	0	0	0	0	20	73	0	0	0	1
4:15 PM	1	0	5	0	0	0	12	0	0	2	0	2	0	0	0	0	22	75	0	0	0	0
4:30 PM	0	0	3	0	0	0	13	0	0	2	0	0	0	0	0	0	18	75	0	0	0	1
4:45 PM	1	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	13	74	0	0	0	0
5:00 PM	1	0	2	0	0	0	19	0	0	0	0	0	0	0	0	0	22	80	0	0	0	1
5:15 PM	2	0	8	0	0	0	10	0	0	2	0	0	0	0	0	0	22		0	0	1	0
5:30 PM	2	0	5	0	0	0	10	0	0	0	0	0	0	0	0	0	17		0	0	0	0
5:45 PM	4	0	4	0	0	0	9	0	0	2	0	0	0	0	0	0	19		0	1	2	4
Count Total	13	0	42	0	0	0	88	0	0	8	0	2	0	0	0	0	153		0	1	3	7
Peak Hour	9	0	19	0	0	0	48	0	0	4	0	0	0	0	0	0	80		0	1	3	5



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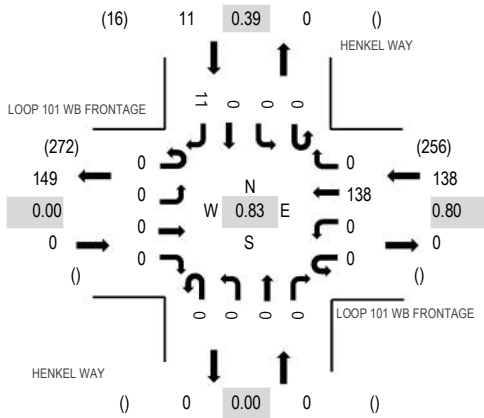
Location: 12 HENKEL WAY & LOOP 101 WB FRONTAGE PM

Date: Thursday, October 19, 2023

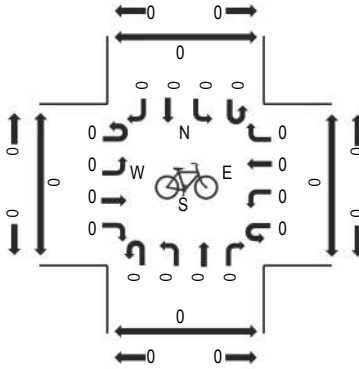
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

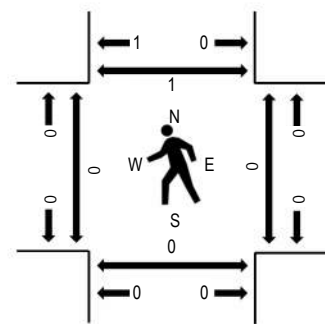
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LOOP 101 WB FRONTAGE Eastbound				LOOP 101 WB FRONTAGE Westbound				HENKEL WAY Northbound				HENKEL WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	2	42	146	0	0	0	0
4:15 PM	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	7	38	149	0	0	0	0
4:30 PM	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	35	143	0	0	0	0
4:45 PM	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	2	31	131	0	0	0	0
5:00 PM	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	2	45	126	0	0	0	1
5:15 PM	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	1	32		1	0	0	0
5:30 PM	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	2	23		0	0	0	0
5:45 PM	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	26		0	0	0	0
Count Total	0	0	0	0	0	0	256	0	0	0	0	0	0	0	0	16	272		1	0	0	1
Peak Hour	0	0	0	0	0	0	138	0	0	0	0	0	0	0	0	11	149		0	0	0	1



Appendix D – Existing Signal Timing

SCOTTSDALE RD & Thompson Peak Pkwy			System # 216
BASIC TIMING PLAN	Section #	I.P. Address MM1-5-1	Date Designed
			6/18/2020

TIMING PLAN - MM-2-1	Phase		2		4	5	6		
	Movement		SBT		WBT	SBL	NBT		
	NOTES		COORD			PROT	COORD		
	MIN GRN		10		15	5	10		
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK		0		8		4		
	WALK2								
	WLK MAX								
	PED CLR/FDW		-		24		37		
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT				2	2	1		
	VH EXT2								
	MAX 1		70		40	25	70		
	MAX 2		90		60	40	90		
	MAX 3								
	DYM MAX								
	DYM STP								
	YELLOW		5.1		4.7	4.4	5.1		
	RED CLR		2.2		2.0	2	2.2		
	RED MAX								
	RED RVT		2		2	2	2		
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP								
RECALLS - MM-2-8	LOCK DET								
	VEH RECALL		X				X		
	PED RECALL								
	MAX RECALL								
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								

NOTES

SCOTTSDALE
RD - SB

	2	5
	↑↑	↓

Thompson Peak
Pkwy - WB

↓	
	4
↑	

PHASING

	↑↑	↓
	6	

SCOTTSDALE
RD - NB

PHASING SEQUENCES	
TOD: MORNING	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: MIDDAY	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: EVENING	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: NIGHT	
R1	2 4
R2	6 5
Use Timing plan:	
FREE	
R1	2 4
R2	6 5
Use Timing plan: 254	

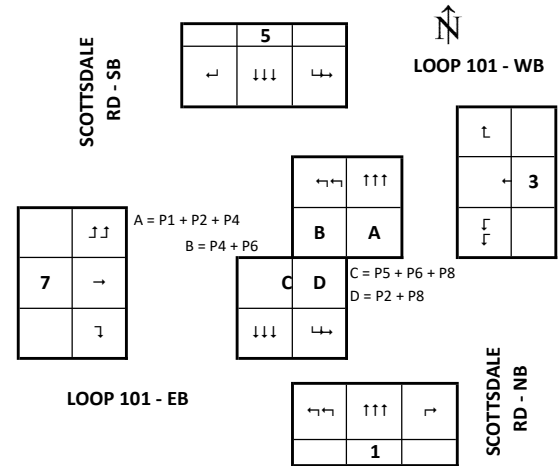
Approved By
Effective Date

SCOTTSDALE RD & Thompson Peak Pkwy										System #	216
COORDINATOR					Section #			Date Updated			
					0			6/18/2020			
	PHASE	1	2	3	4	5	6	7	8		
	FDW		-		24		37				
	YELLOW		5.1		4.7	4.4	5.1				
	ALL RED		2.2		2	2	2.2				
	WALK		-		24		37				
PLAN 1 AM PLAN OPERATIVE TIMES 6:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	44
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		85		35	16	69			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		77.7		28.3	9.6	61.7			120	
PLAN 2 MIDDAY PLAN OPERATIVE TIMES 9:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	83
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		79		29	14	65			Target Cycle Length	
	COORD		X				X			108	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		71.7		22.3	7.6	57.7			108	
PLAN 3 PM PLAN OPERATIVE TIMES 15:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	88
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		90		30	20	70			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		82.7		23.3	###	62.7			120	
PLAN 4 MIDNIGHT PLAN OPERATIVE TIMES 22:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	64
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		63		27	14	49			Target Cycle Length	
	COORD		X				X			90	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		55.7		20.3	7.6	41.7			90	

SCOTTSDALE RD & LOOP 101				System #	254
BASIC TIMING PLAN		Section #	I.P. Address	Date Designed	
			MM1-5-1	8/11/2022	

TIMING PLAN - MM-2-1	Phase	1	2	3	4	5	6	7	8
	Movement	NBT		WBT		SBT		EBT	
	NOTES								
	MIN GRN	10	5	7	2	10	5	7	2
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK	4		4		4		4	
	WALK2								
	WLK MAX								
	PED CLR/FDW	18		46		20		44	
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT	2	2	2	2	2	2	2	2
	VH EXT2								
	MAX 1	50	30	40	15	50	30	40	4
	MAX 2	70	50	60	35	70	50	60	4
	MAX 3								
	DYM MAX	70	50	60	35	70	50	60	4
	DYM STP								
	YELLOW	4.7	4.0	4.7	4	4.7	4	4.7	4
	RED CLR	1	2.0	2	2.0	1	2.0	2	2.0
	RED MAX								
	RED RVT	2	2	2	2	2	2	2	2
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP	2	1	2	1	2	1	2	1
RECALLS - MM-2-8	LOCK DET								
	VEH RECALL	X				X			
	PED RECALL								
	MAX RECALL								
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								

NOTES
OVLP A = Ph1 + Ph2 + Ph4; OVLP B = Ph4 + Ph6; OVLP C = Ph5 + Ph6 + Ph8; OVLP D = Ph2 + Ph8;



PHASING SEQUENCES	
TOD: MORNING	
R1	1 2 3 4
R2	6 5 8 7
Use Timing plan:	
TOD: MIDDAY	
R1	1 2 3 4
R2	6 5 8 7
Use Timing plan:	
TOD: EVENING	
R1	1 2 3 4
R2	6 5 8 7
Use Timing plan:	
TOD: NIGHT	
R1	1 2 3 4
R2	6 5 8 7
Use Timing plan:	
FREE	
R1	1 2 3 4
R2	6 5 8 7
Use Timing plan: 254	

Approved By
Effective Date

SCOTTSDALE RD & LOOP 101										System #	254
COORDINATOR					Section #				Date Updated		
					0				8/11/2022		
	PHASE	1	2	3	4	5	6	7	8		
	FDW	18		46	0	20		44			
	YELLOW	4.7	4	4.7	4	4.7	4	4.7	4		
	ALL RED	1	2	2	2	1	2	2	2		
	WALK				0						
PLAN 1 AM PLAN OPERATIVE TIMES 6:00	R1	1	↶	2	→	3	↶	4	↓	COORD PATTERN	OFFSET
	R2	6	←	5	↷	8	↑	7	↷	Balanced	85
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	38	42	30	10	48	32	36	4	Target Cycle Length	
	COORD	X				X				120	
	RECALLS	V				V				Actual Cycle Length	
	GREEN	32.3	36.0	23.3	4.0	###	26.0	29.3	-2.0	120	
PLAN 2 MIDDAY PLAN OPERATIVE TIMES 9:00	R1	1	↶	2	→	3	↶	4	↓	COORD PATTERN	OFFSET
	R2	6	←	5	↷	8	↑	7	↷	Balanced	14
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	40	29	29	10	32	37	35	4	Target Cycle Length	
	COORD	X				X				108	
	RECALLS	V				V				Actual Cycle Length	
	GREEN	34.3	23.0	22.3	4.0	###	31.0	28.3	-2.0	108	
PLAN 3 PM PLAN OPERATIVE TIMES 15:00	R1	1	↶	2	→	3	↶	4	↓	COORD PATTERN	OFFSET
	R2	6	←	5	↷	8	↑	7	↷	Balanced	9
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	48	30	32	10	35	43	38	4	Target Cycle Length	
	COORD	X				X				120	
	RECALLS	V				V				Actual Cycle Length	
	GREEN	42.3	24.0	25.3	4.0	###	37.0	31.3	-2.0	120	
PLAN 4 MIDNIGHT PLAN OPERATIVE TIMES 22:00	R1	1	↶	2	→	3	↶	4	↓	COORD PATTERN	OFFSET
	R2	6	←	5	↷	8	↑	7	↷	Balanced	83
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	33	25	22	10	33	25	30	2	Target Cycle Length	
	COORD	X				X				90	
	RECALLS	V				V				Actual Cycle Length	
	GREEN	27.3	19.0	15.3	4.0	###	19.0	23.3	-4.0	90	

SCOTTSDALE RD & HENKEL WAY			System # 290
BASIC TIMING PLAN	Section #	I.P. Address MM1-5-1	Date Designed
			2/10/2022

TIMING PLAN - MM-2-1	Phase		2		4		6		
	Movement		SBT		WBT		NBT		
	NOTES		COORD				COORD		
	MIN GRN		10		7		10		
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK		0		0		4		
	WALK2								
	WLK MAX								
	PED CLR/FDW		-		-		22		
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT		2		2		2		
	VH EXT2								
	MAX 1		70		30		70		
	MAX 2		90		50		90		
	MAX 3								
	DYM MAX								
	DYM STP								
	YELLOW		4.7		3		4.7		
	RED CLR		1.0		2.0		1.0		
	RED MAX								
	RED RVT		2		2		2		
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP								
RECALLS - MM-2-8	LOCK DET								
	VEH RECALL								
	PED RECALL		X				X		
	MAX RECALL		X				X		
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								

NOTES

SCOTTSDALE
RD - SB

	2	
↓ ↓ ↓		↓

HENKEL WAY -
WB

↓	
	4
↓	

PHASING

	↑ ↑ ↑	↓
	6	

SCOTTSDALE
RD - NB

PHASING SEQUENCES	
TOD: MORNING	
R1	2 4
R2	6
Use Timing plan:	
TOD: MIDDAY	
R1	2 4
R2	6
Use Timing plan:	
TOD: EVENING	
R1	2 4
R2	6
Use Timing plan:	
TOD: NIGHT	
R1	2 4
R2	6
Use Timing plan:	
FREE	
R1	2 4
R2	6
Use Timing plan: 254	

Approved By
Effective Date

SCOTTSDALE RD & HENKEL WAY										System #	290
COORDINATOR					Section #			Date Updated			
					0			2/10/2022			
	PHASE	1	2	3	4	5	6	7	8		
	FDW		-		-		22				
	YELLOW		4.7		3		4.7				
	ALL RED		1		2		1				
	WALK		-		-		22				
PLAN 1 AM PLAN OPERATIVE TIMES 6:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑							Balanced	11
		RING 1				RING 2					
	PHASE		2		4		6				
	SPLIT		100		20		100			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		M&P				M&P			Actual Cycle Length	
	GREEN		94.3		15.0		94.3			120	
PLAN 2 MIDDAY PLAN OPERATIVE TIMES 9:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑							Balanced	21
		RING 1				RING 2					
	PHASE		2		4		6				
	SPLIT		90		30		90			Target Cycle Length	
	COORD		X				X			108	
	RECALLS		P				P			Actual Cycle Length	
	GREEN				25.0		84.4			120	
PLAN 3 PM PLAN OPERATIVE TIMES 15:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑							Balanced	28
		RING 1				RING 2					
	PHASE		2		4		6				
	SPLIT		98		22		98			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		M&P				M&P			Actual Cycle Length	
	GREEN		92.3		17.0		92.3			120	
PLAN 4 MIDNIGHT PLAN OPERATIVE TIMES 22:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑							Balanced	14
		RING 1				RING 2					
	PHASE		2		4		6				
	SPLIT		70		20		70			Target Cycle Length	
	COORD		X				X			90	
	RECALLS		P				P			Actual Cycle Length	
	GREEN				15.0		64.4			90	

SCOTTSDALE RD & LEGACY BLVD			System # 291
BASIC TIMING PLAN	Section #	I.P. Address MM1-5-1	Date Designed
			2/10/2022

TIMING PLAN - MM-2-1	Phase		2		4	5	6		
	Movement		SBT		WBT	SBL	NBT		
	NOTES		COORD			p&P	COORD		
	MIN GRN		10		7	5	10		
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK		0		0		7		
	WALK2								
	WLK MAX								
	PED CLR/FDW		-		-		26		
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT		1		2	2	1		
	VH EXT2								
	MAX 1		70		25	20	70		
	MAX 2		90		40	30	90		
	MAX 3								
	DYM MAX								
	DYM STP								
RECALLS - MM-2-8	YELLOW		4.7		3.6	4	4.7		
	RED CLR		1.6		3.0	2	1.6		
	RED MAX								
	RED RVT		2		2	2	2		
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP								
	LOCK DET								
	VEH RECALL								
	PED RECALL		X				X		
	MAX RECALL		X				X		
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								

NOTES

SCOTTSDALE
RD - SB

	2	5
	11	1

LEGACY BLVD -
WB

1	
	4
1	

PHASING

	11	1
	6	

SCOTTSDALE
RD - NB

PHASING SEQUENCES	
TOD: MORNING	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: MIDDAY	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: EVENING	
R1	2 4
R2	6 5
Use Timing plan:	
TOD: NIGHT	
R1	2 4
R2	6 5
Use Timing plan:	
FREE	
R1	2 4
R2	6 5
Use Timing plan: 254	

Approved By
Effective Date

SCOTTSDALE RD & LEGACY BLVD										System #	291
COORDINATOR						Section #				Date Updated	
						0				2/10/2022	
	PHASE	1	2	3	4	5	6	7	8		
	FDW		-		-		26				
	YELLOW		4.7		3.6	4	4.7				
	ALL RED		1.6		3	2	1.6				
	WALK		-		-		26				
PLAN 1 AM PLAN OPERATIVE TIMES 6:30	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	115
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		100		20	14	86			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		93.7		13.4	8.0	79.7			120	
PLAN 2 MIDDAY PLAN OPERATIVE TIMES 9:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	86
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		88		20	12	76			Target Cycle Length	
	COORD		X				X			108	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		81.7		13.4	6.0	69.7			108	
PLAN 3 PM PLAN OPERATIVE TIMES 15:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	75
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		106		14	11	95			Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		99.7		7.4	5.0	88.7			120	
PLAN 4 MIDNIGHT PLAN OPERATIVE TIMES 20:00	R1	2	↓			4	←			COORD PATTERN	OFFSET
	R2	6	↑	5	↘					Balanced	10
		RING 1				RING 2					
	PHASE		2		4	5	6				
	SPLIT		71		19	12	59			Target Cycle Length	
	COORD		X				X			90	
	RECALLS		V				V			Actual Cycle Length	
	GREEN		64.7		12.4	6.0	52.7			90	



Appendix E – Existing Capacity Analysis

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	263	66	1378	453	52	1661
Future Volume (veh/h)	263	66	1378	453	52	1661
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	302	76	1531	503	57	1825
Peak Hour Factor	0.87	0.87	0.90	0.90	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	432	198	1827	815	327	2695
Arrive On Green	0.12	0.12	0.34	0.34	0.18	0.76
Sat Flow, veh/h	3456	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	302	76	1531	503	57	1825
Grp Sat Flow(s),veh/h/ln	1728	1585	1777	1585	1781	1777
Q Serve(g_s), s	10.1	5.3	47.6	31.7	3.2	30.6
Cycle Q Clear(g_c), s	10.1	5.3	47.6	31.7	3.2	30.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	432	198	1827	815	327	2695
V/C Ratio(X)	0.70	0.38	0.84	0.62	0.17	0.68
Avail Cap(c_a), veh/h	815	374	1827	815	327	2695
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	48.3	34.7	29.5	41.3	7.2
Incr Delay (d2), s/veh	0.8	0.5	4.8	3.5	0.1	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.8	22.1	13.2	1.4	8.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.1	48.7	39.5	33.0	41.4	8.6
LnGrp LOS	D	D	D	C	D	A
Approach Vol, veh/h	378		2034			1882
Approach Delay, s/veh	50.6		37.9			9.6
Approach LOS	D		D			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	98.3		21.7		29.3	69.0
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	77.7		28.3		9.6	* 62
Max Q Clear Time (g_c+I1), s	32.6		12.1		5.2	49.6
Green Ext Time (p_c), s	2.6		0.6		0.0	3.8
Intersection Summary						
HCM 7th Control Delay, s/veh			26.6			
HCM 7th LOS			C			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

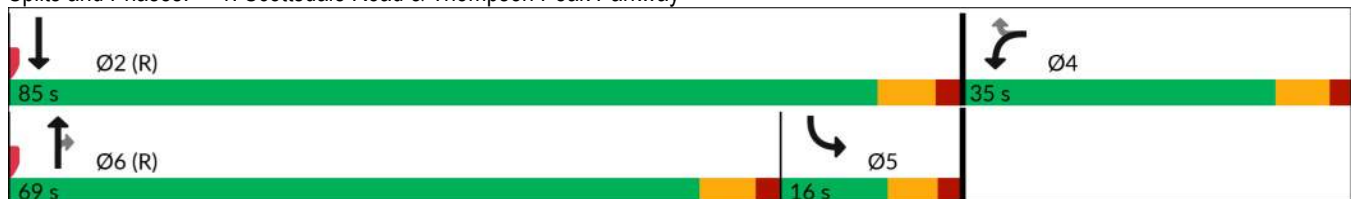


Phase Number	2	4	5	6
Movement	SBT	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	85	35	16	69
Maximum Split (%)	70.8%	29.2%	13.3%	57.5%
Minimum Split (s)	22.5	38.7	11.4	48.3
Yellow Time (s)	5.1	4.7	4.4	5.1
All-Red Time (s)	2.2	2	2	2.2
Minimum Initial (s)	10	15	5	10
Vehicle Extension (s)	0.2	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		8		4
Flash Dont Walk (s)		24		37
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	44	9	113	44
End Time (s)	9	44	9	113
Yield/Force Off (s)	1.7	37.3	2.6	105.7
Yield/Force Off 170(s)	1.7	13.3	2.6	68.7
Local Start Time (s)	0	85	69	0
Local Yield (s)	77.7	113.3	78.6	61.7
Local Yield 170(s)	77.7	89.3	78.6	24.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	100
Offset: 44 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	1	1830	2	0	1923
Future Vol, veh/h	0	1	1830	2	0	1923
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	91	91	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	2011	2	0	2046

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	1005	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*558	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		0	-
Mov Cap-1 Maneuver	-	*558	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v11.46		0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	558
HCM Lane V/C Ratio	-	-	0.002
HCM Control Delay (s/veh)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	25	1807	7	5	1921
Future Vol, veh/h	3	25	1807	7	5	1921
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	91	91	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	35	1986	8	5	2044
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	3018	993	0	0	1993	0
Stage 1	1986	-	-	-	-	-
Stage 2	1032	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*~ 0	*575	-	-	334	-
Stage 1	*151	-	-	-	-	-
Stage 2	*510	-	-	-	-	-
Platoon blocked, %	1	0	-	-	0	-
Mov Cap-1 Maneuver	*~ 0	*575	-	-	334	-
Mov Cap-2 Maneuver	*~ 0	-	-	-	-	-
Stage 1	*151	-	-	-	-	-
Stage 2	*502	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.66		0		0.04		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	575	334	-	
HCM Lane V/C Ratio	-	-	0.06	0.016	-	
HCM Control Delay (s/veh)	-	-	11.7	16	-	
HCM Lane LOS	-	-	B	C	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗	↗		↗↗
Traffic Vol, veh/h	0	0	1814	4	0	1924
Future Vol, veh/h	0	0	1814	4	0	1924
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1972	4	0	2047
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	986	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*675	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*675	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	88	11	1807	40	11	1913
Future Volume (veh/h)	88	11	1807	40	11	1913
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	13	1964	43	12	2035
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	198	91	2360	1053	321	2968
Arrive On Green	0.06	0.06	0.66	0.66	0.16	1.00
Sat Flow, veh/h	3456	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	105	13	1964	43	12	2035
Grp Sat Flow(s),veh/h/ln	1728	1585	1777	1585	1781	1777
Q Serve(g_s), s	3.5	0.9	49.8	1.1	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.9	49.8	1.1	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	198	91	2360	1053	321	2968
V/C Ratio(X)	0.53	0.14	0.83	0.04	0.04	0.69
Avail Cap(c_a), veh/h	386	177	2360	1053	321	2968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	53.8	15.1	7.0	25.5	0.0
Incr Delay (d2), s/veh	0.8	0.3	3.6	0.1	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	18.0	0.4	0.2	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.8	54.0	18.7	7.0	25.5	1.3
LnGrp LOS	E	D	B	A	C	A
Approach Vol, veh/h	118		2007		2047	
Approach Delay, s/veh	55.6		18.5		1.5	
Approach LOS	E		B		A	
Timer - Assigned Phs						
	2		4		5	6
Phs Duration (G+Y+Rc), s	106.5		13.5		20.5	86.0
Change Period (Y+Rc), s	* 6.3		6.6		* 6.3	* 6.3
Max Green Setting (Gmax), s	* 94		13.4		* 8	* 80
Max Q Clear Time (g_c+I1), s	2.0		5.5		2.0	51.8
Green Ext Time (p_c), s	7.3		0.1		0.0	6.5
Intersection Summary						
HCM 7th Control Delay, s/veh			11.2			
HCM 7th LOS			B			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

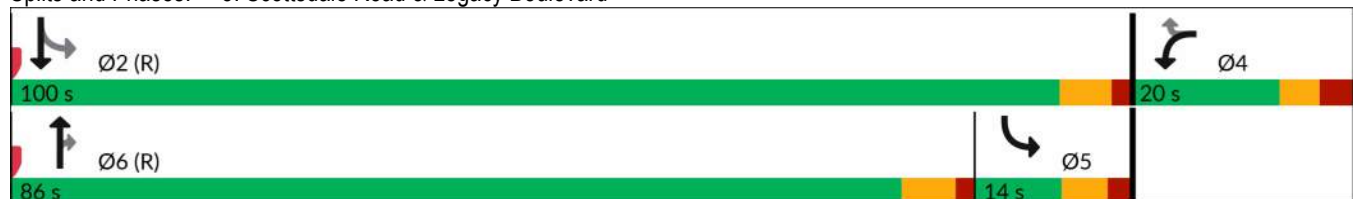


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	100	20	14	86
Maximum Split (%)	83.3%	16.7%	11.7%	71.7%
Minimum Split (s)	22.5	22.5	11	39.3
Yellow Time (s)	4.7	3.6	4	4.7
All-Red Time (s)	1.6	3	2	1.6
Minimum Initial (s)	10	7	5	5
Vehicle Extension (s)	1	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				7
Flash Dont Walk (s)				26
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	115	95	81	115
End Time (s)	95	115	95	81
Yield/Force Off (s)	88.7	108.4	89	74.7
Yield/Force Off 170(s)	88.7	108.4	89	48.7
Local Start Time (s)	0	100	86	0
Local Yield (s)	93.7	113.4	94	79.7
Local Yield 170(s)	93.7	113.4	94	53.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 115 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	3	1844	26	11	1990
Future Volume (veh/h)	3	3	1844	26	11	1990
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	5	1983	28	12	2140
Peak Hour Factor	0.63	0.63	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	57	26	4566	1418	236	4566
Arrive On Green	0.02	0.02	0.89	0.89	0.89	0.89
Sat Flow, veh/h	3456	1585	5274	1585	213	5274
Grp Volume(v), veh/h	5	5	1983	28	12	2140
Grp Sat Flow(s), veh/h/ln	1728	1585	1702	1585	213	1702
Q Serve(g_s), s	0.2	0.4	8.1	0.2	1.2	9.2
Cycle Q Clear(g_c), s	0.2	0.4	8.1	0.2	9.3	9.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	57	26	4566	1418	236	4566
V/C Ratio(X)	0.09	0.19	0.43	0.02	0.05	0.47
Avail Cap(c_a), veh/h	432	198	4566	1418	236	4566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	58.1	58.2	1.1	0.7	1.9	1.2
Incr Delay (d2), s/veh	0.2	1.3	0.3	0.0	0.4	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	58.4	59.5	1.4	0.7	2.3	1.5
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	10		2011			2152
Approach Delay, s/veh	58.9		1.3			1.5
Approach LOS	E		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		113.0		7.0		113.0
Change Period (Y+Rc), s		5.7		5.0		5.7
Max Green Setting (Gmax), s		94.3		15.0		94.3
Max Q Clear Time (g_c+I1), s		11.3		2.4		10.1
Green Ext Time (p_c), s		18.1		0.0		14.6
Intersection Summary						
HCM 7th Control Delay, s/veh			1.6			
HCM 7th LOS			A			

6: Scottsdale Road & Henkel Way

12/08/2023

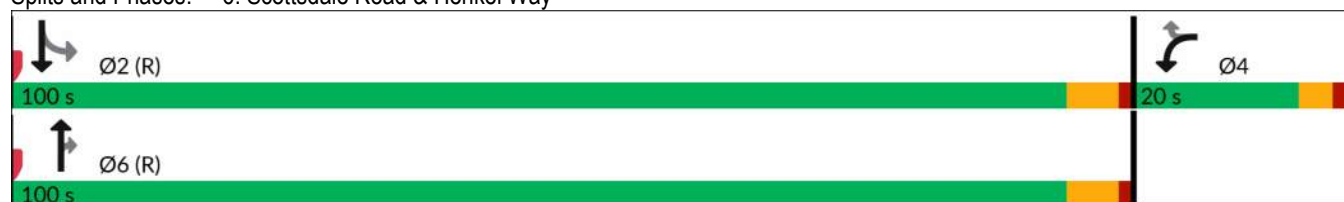


Phase Number	2	4	6
Movement	SBTL	WBL	NBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	C-Max
Maximum Split (s)	100	20	100
Maximum Split (%)	83.3%	16.7%	83.3%
Minimum Split (s)	22.5	22.5	31.7
Yellow Time (s)	4.7	3	4.7
All-Red Time (s)	1	2	1
Minimum Initial (s)	10	7	10
Vehicle Extension (s)	2	2	2
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			4
Flash Dont Walk (s)			22
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	11	111	11
End Time (s)	111	11	111
Yield/Force Off (s)	105.3	6	105.3
Yield/Force Off 170(s)	105.3	6	83.3
Local Start Time (s)	0	100	0
Local Yield (s)	94.3	115	94.3
Local Yield 170(s)	94.3	115	72.3

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	60
Offset: 11 (9%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 6: Scottsdale Road & Henkel Way



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	400	5	505	375	1365	0	0	1471	523
Future Volume (vph)	0	0	0	400	5	505	375	1365	0	0	1471	523
Satd. Flow (prot)	0	0	0	3433	1509	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1509	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					69	190						495
Lane Group Flow (vph)	0	0	0	635	409	401	403	1468	0	0	1582	562
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases				3!			4 6!	1 2 4			5!	
Permitted Phases				3!		3						5
Total Split (s)				30.0	30.0	30.0					48.0	48.0
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effect Green (s)				27.0	27.0	27.0	36.7	83.6			44.6	44.6
Actuated g/C Ratio				0.22	0.22	0.22	0.30	0.68			0.36	0.36
v/c Ratio				0.84	1.06	0.84	0.39	0.43			0.58	0.63
Control Delay (s/veh)				58.0	102.1	41.2	9.0	5.2			33.0	8.3
Queue Delay				0.0	0.0	0.0	0.0	0.4			0.0	0.0
Total Delay (s/veh)				58.0	102.1	41.2	9.0	5.6			33.0	8.3
LOS				E	F	D	A	A			C	A
Approach Delay (s/veh)					65.8			6.3			26.5	
Approach LOS					E			A			C	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 30.0

Intersection LOS: C

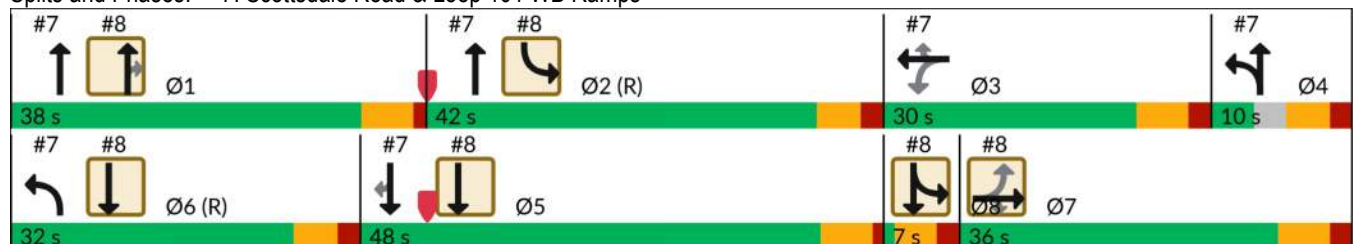
Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	38.0	42.0	10.0	32.0	36.0	7.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Intersection Summary						

8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							   		  	  	
Traffic Volume (vph)	766	3	908	0	0	0	0	974	310	619	1251	0
Future Volume (vph)	766	3	908	0	0	0	0	974	310	619	1251	0
Satd. Flow (prot)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		75	184						356			
Lane Group Flow (vph)	923	551	547	0	0	0	0	1120	356	659	1331	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7!						1!		2 8!	5 6 8	
Permitted Phases	7!		7						1			
Total Split (s)	36.0	36.0	36.0					38.0	38.0			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effect Green (s)	29.3	29.3	29.3					32.3	32.3	35.7	81.3	
Actuated g/C Ratio	0.24	0.24	0.24					0.26	0.26	0.29	0.66	
v/c Ratio	1.13	1.33	1.10					0.57	0.53	0.66	0.40	
Control Delay (s/veh)	116.4	196.2	99.4					40.6	6.7	26.9	8.9	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.2	0.1	
Total Delay (s/veh)	116.4	196.2	99.4					40.6	6.7	27.1	9.0	
LOS	F	F	F					D	A	C	A	
Approach Delay (s/veh)		133.6						32.4			15.0	
Approach LOS		F						C			B	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 63.4

Intersection LOS: E

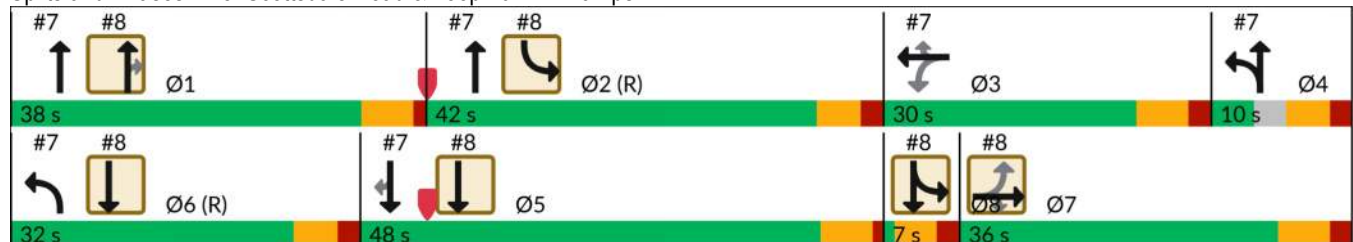
Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	42.0	30.0	10.0	48.0	32.0	7.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	158	348	9	0	262	47	1	0	20	0	0	81
Future Vol, veh/h	158	348	9	0	262	47	1	0	20	0	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	77	77	77	68	68	68	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	176	387	10	0	340	61	1	0	29	0	0	99

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	401	0	0	-	-	0	908	-	193	-	-	170
Stage 1	-	-	-	-	-	-	738	-	-	-	-	-
Stage 2	-	-	-	-	-	-	170	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1154	-	-	0	-	-	230	0	816	0	0	844
Stage 1	-	-	-	0	-	-	376	0	-	0	0	-
Stage 2	-	-	-	0	-	-	815	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1154	-	-	-	-	-	172	-	816	-	-	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	-	-	-	-	-
Stage 1	-	-	-	-	-	-	319	-	-	-	-	-
Stage 2	-	-	-	-	-	-	720	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.66	0	9.58	9.83
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	816	1154	-	-	-	-	844
HCM Lane V/C Ratio	0.036	0.152	-	-	-	-	0.117
HCM Control Delay (s/veh)	9.6	8.7	-	-	-	-	9.8
HCM Lane LOS	A	A	-	-	-	-	A
HCM 95th %tile Q(veh)	0.1	0.5	-	-	-	-	0.4

10: Legacy Boulevard & 73rd Street

12/08/2023

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	29	11	9	29	83
Future Vol, veh/h	22	29	11	9	29	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	110	-	-	-	150	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	60	60	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	32	18	15	37	105

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	33	0	-	0	91
Stage 1	-	-	-	-	26
Stage 2	-	-	-	-	65
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1577	-	-	-	899
Stage 1	-	-	-	-	993
Stage 2	-	-	-	-	950
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1577	-	-	-	885
Mov Cap-2 Maneuver	-	-	-	-	885
Stage 1	-	-	-	-	978
Stage 2	-	-	-	-	950

Approach	EB	WB	SB
HCM Control Delay, s/v	3.16	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1577	-	-	-	885	1058
HCM Lane V/C Ratio	0.016	-	-	-	0.041	0.099
HCM Control Delay (s/veh)	7.3	-	-	-	9.2	8.8
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.3

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	48	0	0	12	0	0
Future Vol, veh/h	48	0	0	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	70	70	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	0	0	17	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	57
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1545
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1545
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1545	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBRLane Configurations   

Traffic Vol, veh/h 0 0 43 3 0 2

Future Vol, veh/h 0 0 43 3 0 2

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - 250 - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 67 67 50 50

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 0 0 64 4 0 4

Major/Minor Major2 Minor2

Conflicting Flow All - 0 - 64

Stage 1 - - - -

Stage 2 - - - -

Critical Hdwy - - - 6.22

Critical Hdwy Stg 1 - - - -

Critical Hdwy Stg 2 - - - -

Follow-up Hdwy - - - 3.318

Pot Cap-1 Maneuver - - 0 1000

Stage 1 - - 0 -

Stage 2 - - 0 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver - - - 1000

Mov Cap-2 Maneuver - - - -

Stage 1 - - - -

Stage 2 - - - -

Approach WB SB

HCM Control Delay, s/v 0 8.61

HCM LOS A

Minor Lane/Major Mvmt WBT WBR SBLn1

Capacity (veh/h) - - 1000

HCM Lane V/C Ratio - - 0.004

HCM Control Delay (s/veh) - - 8.6

HCM Lane LOS - - A

HCM 95th %tile Q(veh) - - 0

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	507	80	1870	321	49	1255
Future Volume (veh/h)	507	80	1870	321	49	1255
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	528	83	1948	334	54	1394
Peak Hour Factor	0.96	0.96	0.96	0.96	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	589	270	1857	828	231	2534
Arrive On Green	0.17	0.17	1.00	1.00	0.13	0.71
Sat Flow, veh/h	3456	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	528	83	1948	334	54	1394
Grp Sat Flow(s),veh/h/ln	1728	1585	1777	1585	1781	1777
Q Serve(g_s), s	18.0	5.5	62.7	0.0	3.3	22.2
Cycle Q Clear(g_c), s	18.0	5.5	62.7	0.0	3.3	22.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	589	270	1857	828	231	2534
V/C Ratio(X)	0.90	0.31	1.05	0.40	0.23	0.55
Avail Cap(c_a), veh/h	671	308	1857	828	231	2534
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	43.6	0.0	0.0	46.9	8.1
Incr Delay (d2), s/veh	12.7	0.2	35.1	1.5	0.2	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	5.1	9.1	0.3	1.4	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	61.4	43.8	35.1	1.5	47.1	9.0
LnGrp LOS	E	D	F	A	D	A
Approach Vol, veh/h	611		2282			1448
Approach Delay, s/veh	59.0		30.2			10.4
Approach LOS	E		C			B
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	92.9		27.1		22.9	70.0
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	82.7		23.3		13.6	* 63
Max Q Clear Time (g_c+l1), s	24.2		20.0		5.3	64.7
Green Ext Time (p_c), s	1.7		0.5		0.0	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			27.7			
HCM 7th LOS			C			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

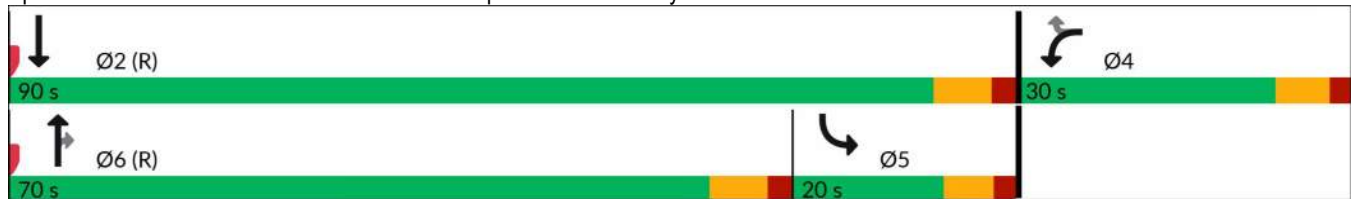


Phase Number	2	4	5	6
Movement	SBT	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	90	30	20	70
Maximum Split (%)	75.0%	25.0%	16.7%	58.3%
Minimum Split (s)	22.5	38.7	11.4	48.3
Yellow Time (s)	5.1	4.7	4.4	5.1
All-Red Time (s)	2.2	2	2	2.2
Minimum Initial (s)	10	15	5	10
Vehicle Extension (s)	0.2	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		8		4
Flash Dont Walk (s)		24		37
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	88	58	38	88
End Time (s)	58	88	58	38
Yield/Force Off (s)	50.7	81.3	51.6	30.7
Yield/Force Off 170(s)	50.7	57.3	51.6	113.7
Local Start Time (s)	0	90	70	0
Local Yield (s)	82.7	113.3	83.6	62.7
Local Yield 170(s)	82.7	89.3	83.6	25.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	120
Offset: 88 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	2186	4	0	1757
Future Vol, veh/h	0	4	2186	4	0	1757
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	96	96	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	2277	4	0	1931
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1139	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*471	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-	-	-
Mov Cap-1 Maneuver	-	*471	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v12.78			0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		-		471	
HCM Lane V/C Ratio	-		-		0.017	
HCM Control Delay (s/veh)	-		-		12.8	
HCM Lane LOS	-		-		B	
HCM 95th %tile Q(veh)	-		-		0.1	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	17	2173	21	5	1755
Future Vol, veh/h	3	17	2173	21	5	1755
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	96	96	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	22	2264	22	5	1929
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3239	1132	0	0	2285	0
Stage 1	2264	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*~ 2	*471	-	-	219	-
Stage 1	*95	-	-	-	-	-
Stage 2	*559	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*~ 2	*471	-	-	219	-
Mov Cap-2 Maneuver	*~ 2	-	-	-	-	-
Stage 1	*95	-	-	-	-	-
Stage 2	*545	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v13.01			0		0.06	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBL	SBT
Capacity (veh/h)	-		-		471	219
HCM Lane V/C Ratio	-		-		0.046	0.025
HCM Control Delay (s/veh)	-		-		13	21.9
HCM Lane LOS	-		-		B	C
HCM 95th %tile Q(veh)	-		-		0.1	0.1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	2194	4	0	1758
Future Vol, veh/h	0	0	2194	4	0	1758
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	96	96	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2285	4	0	1932
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1143	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*577	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*577	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		-		-	
HCM Lane V/C Ratio	-		-		-	
HCM Control Delay (s/veh)	-		0		-	
HCM Lane LOS	-		A		-	
HCM 95th %tile Q(veh)	-		-		-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 			 
Traffic Volume (veh/h)	64	36	2163	93	4	1754
Future Volume (veh/h)	64	36	2163	93	4	1754
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	49	2230	96	4	1927
Peak Hour Factor	0.73	0.73	0.97	0.97	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	199	92	2627	1172	181	2967
Arrive On Green	0.06	0.06	0.74	0.74	0.09	1.00
Sat Flow, veh/h	3456	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	88	49	2230	96	4	1927
Grp Sat Flow(s),veh/h/ln	1728	1585	1777	1585	1781	1777
Q Serve(g_s), s	3.0	3.6	52.7	2.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	3.6	52.7	2.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	199	92	2627	1172	181	2967
V/C Ratio(X)	0.44	0.54	0.85	0.08	0.02	0.65
Avail Cap(c_a), veh/h	213	98	2627	1172	181	2967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	55.0	11.0	4.3	26.7	0.0
Incr Delay (d2), s/veh	0.6	1.9	3.7	0.1	0.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.2	16.8	0.6	0.1	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.2	56.8	14.6	4.5	26.7	1.1
LnGrp LOS	E	E	B	A	C	A
Approach Vol, veh/h	137		2326			1931
Approach Delay, s/veh	55.8		14.2			1.2
Approach LOS	E		B			A
Timer - Assigned Phs						
	2		4		5	6
Phs Duration (G+Y+Rc), s	106.5		13.5		11.5	95.0
Change Period (Y+Rc), s	* 6.3		6.6		* 6.3	* 6.3
Max Green Setting (Gmax), s	* 1E+02		7.4		* 5	* 89
Max Q Clear Time (g_c+I1), s	2.0		5.6		2.0	54.7
Green Ext Time (p_c), s	6.5		0.0		0.0	8.6
Intersection Summary						
HCM 7th Control Delay, s/veh			9.8			
HCM 7th LOS			A			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

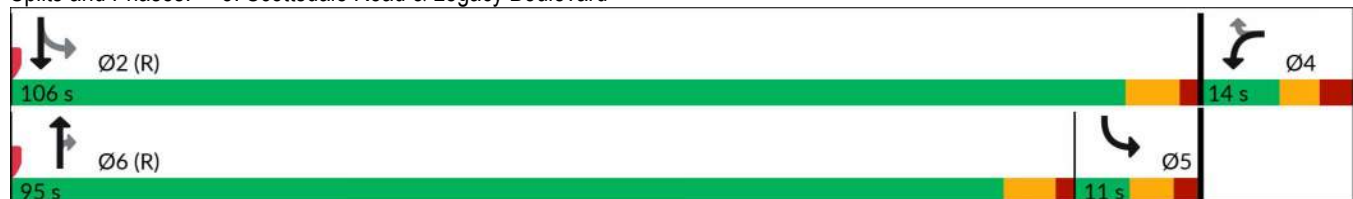


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	106	14	11	95
Maximum Split (%)	88.3%	11.7%	9.2%	79.2%
Minimum Split (s)	22.5	22.5	11	39.3
Yellow Time (s)	4.7	3.6	4	4.7
All-Red Time (s)	1.6	3	2	1.6
Minimum Initial (s)	10	7	5	5
Vehicle Extension (s)	1	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				7
Flash Dont Walk (s)				26
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	75	61	50	75
End Time (s)	61	75	61	50
Yield/Force Off (s)	54.7	68.4	55	43.7
Yield/Force Off 170(s)	54.7	68.4	55	17.7
Local Start Time (s)	0	106	95	0
Local Yield (s)	99.7	113.4	100	88.7
Local Yield 170(s)	99.7	113.4	100	62.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	110
Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	7	2249	7	0	1818
Future Volume (veh/h)	25	7	2249	7	0	1818
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	12	2319	7	0	1998
Peak Hour Factor	0.58	0.58	0.97	0.97	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	169	78	4401	1366	60	4401
Arrive On Green	0.05	0.05	0.86	0.86	0.00	0.86
Sat Flow, veh/h	3456	1585	5274	1585	156	5274
Grp Volume(v), veh/h	43	12	2319	7	0	1998
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	156	1702
Q Serve(g_s), s	1.4	0.9	13.8	0.1	0.0	10.7
Cycle Q Clear(g_c), s	1.4	0.9	13.8	0.1	0.0	10.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	169	78	4401	1366	60	4401
V/C Ratio(X)	0.25	0.15	0.53	0.01	0.00	0.45
Avail Cap(c_a), veh/h	490	225	4401	1366	60	4401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.81	0.81	0.00	1.00
Uniform Delay (d), s/veh	54.9	54.7	2.1	1.2	0.0	1.9
Incr Delay (d2), s/veh	0.3	0.3	0.4	0.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	1.6	0.0	0.0	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.2	55.0	2.5	1.2	0.0	2.2
LnGrp LOS	E	E	A	A		A
Approach Vol, veh/h	55		2326			1998
Approach Delay, s/veh	55.2		2.5			2.2
Approach LOS	E		A			A
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	109.1		10.9		109.1	
Change Period (Y+Rc), s	5.7		5.0		5.7	
Max Green Setting (Gmax), s	92.3		17.0		92.3	
Max Q Clear Time (g_c+I1), s	12.7		3.4		15.8	
Green Ext Time (p_c), s	14.7		0.0		20.6	
Intersection Summary						
HCM 7th Control Delay, s/veh			3.0			
HCM 7th LOS			A			

6: Scottsdale Road & Henkel Way

12/08/2023

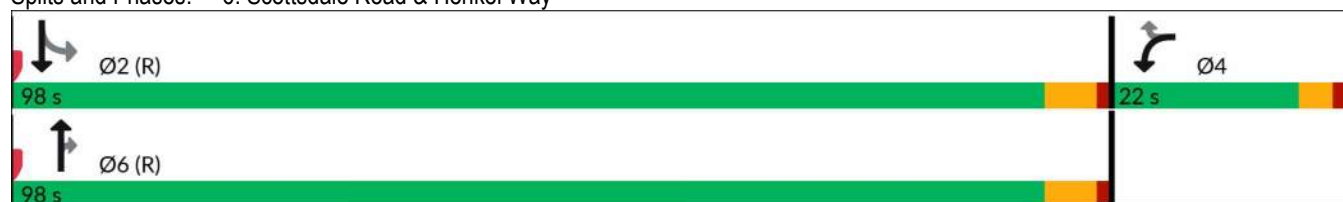


Phase Number	2	4	6
Movement	SBTL	WBL	NBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	C-Max
Maximum Split (s)	98	22	98
Maximum Split (%)	81.7%	18.3%	81.7%
Minimum Split (s)	22.5	22.5	31.7
Yellow Time (s)	4.7	3	4.7
All-Red Time (s)	1	2	1
Minimum Initial (s)	10	7	10
Vehicle Extension (s)	2	2	2
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			4
Flash Dont Walk (s)			22
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	28	6	28
End Time (s)	6	28	6
Yield/Force Off (s)	0.3	23	0.3
Yield/Force Off 170(s)	0.3	23	98.3
Local Start Time (s)	0	98	0
Local Yield (s)	92.3	115	92.3
Local Yield 170(s)	92.3	115	70.3

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	60
Offset: 28 (23%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 6: Scottsdale Road & Henkel Way



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	614	47	706	657	1550	0	0	1334	509
Future Volume (vph)	0	0	0	614	47	706	657	1550	0	0	1334	509
Satd. Flow (prot)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					41	139						323
Lane Group Flow (vph)	0	0	0	633	390	386	714	1685	0	0	1482	566
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases				3!			4 6!	1 2 4			5!	
Permitted Phases				3!		3						5
Total Split (s)				32.0	32.0	32.0					35.0	35.0
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effect Green (s)				26.4	26.4	26.4	46.2	84.2			33.1	33.1
Actuated g/C Ratio				0.21	0.21	0.21	0.38	0.68			0.27	0.27
v/c Ratio				0.86	1.08	0.90	0.55	0.48			0.73	0.85
Control Delay (s/veh)				59.8	111.9	54.6	11.8	4.2			44.0	32.5
Queue Delay				0.0	0.0	0.0	0.2	0.3			0.0	0.0
Total Delay (s/veh)				59.8	111.9	54.6	12.0	4.4			44.0	32.5
LOS				E	F	D	B	A			D	C
Approach Delay (s/veh)					72.8			6.7			40.8	
Approach LOS					E			A			D	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay (s/veh): 34.5

Intersection LOS: C

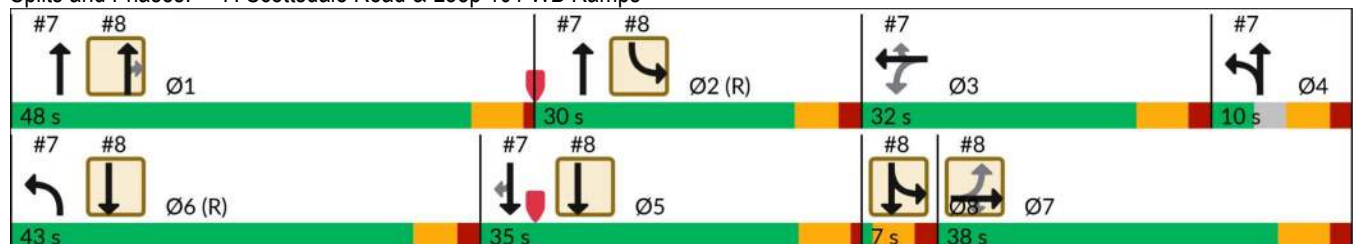
Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	48.0	30.0	10.0	43.0	38.0	7.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Intersection Summary						

8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	521	1	782	0	0	0	0	1687	544	430	1518	0
Future Volume (vph)	521	1	782	0	0	0	0	1687	544	430	1518	0
Satd. Flow (prot)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		40	133						561			
Lane Group Flow (vph)	560	422	420	0	0	0	0	1739	561	448	1581	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7!						1!		2 8!	5 6 8	
Permitted Phases	7!		7						1			
Total Split (s)	38.0	38.0	38.0					48.0	48.0			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effect Green (s)	31.3	31.3	31.3					42.3	42.3	28.7	79.3	
Actuated g/C Ratio	0.25	0.25	0.25					0.34	0.34	0.23	0.64	
v/c Ratio	0.64	1.02	0.87					0.67	0.62	0.56	0.48	
Control Delay (s/veh)	44.8	91.8	49.7					36.0	5.6	26.7	11.8	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay (s/veh)	44.8	91.8	49.7					36.0	5.6	26.7	12.0	
LOS	D	F	D					D	A	C	B	
Approach Delay (s/veh)		60.4						28.6			15.3	
Approach LOS		E						C			B	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay (s/veh): 31.7

Intersection LOS: C

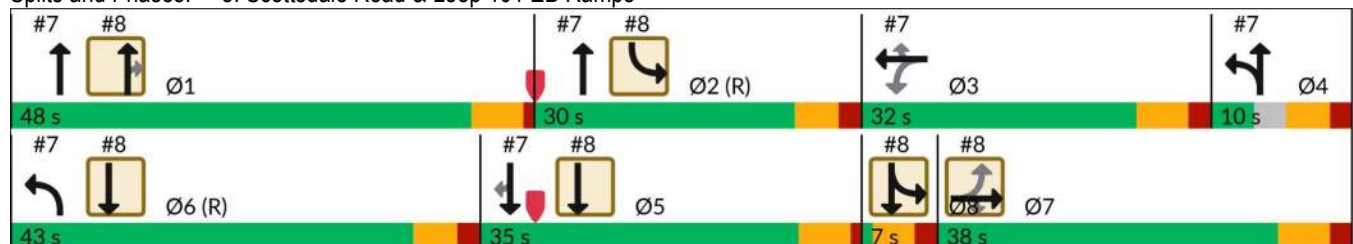
Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	30.0	32.0	10.0	35.0	43.0	7.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	347	15	0	379	24	0	0	22	0	0	187
Future Vol, veh/h	28	347	15	0	379	24	0	0	22	0	0	187
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	63	63	63	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	439	19	0	431	27	0	0	35	0	0	213

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	-	-	0	-	-	220	-	-	215
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1099	-	-	0	-	-	0	0	784	0	0	789
Stage 1	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1099	-	-	-	-	-	-	-	784	-	-	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.6	0	9.8	11.23
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	784	1099	-	-	-	-	789
HCM Lane V/C Ratio	0.045	0.032	-	-	-	-	0.269
HCM Control Delay (s/veh)	9.8	8.4	-	-	-	-	11.2
HCM Lane LOS	A	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-	-	1.1

10: Legacy Boulevard & 73rd Street

12/08/2023

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	13	35	28	12	65
Future Vol, veh/h	81	13	35	28	12	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	110	-	-	-	150	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	78	78	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	14	45	36	13	70
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	81	0	-	0	242	40
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	179	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1515	-	-	-	725	1022
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1515	-	-	-	684	1022
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	834	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	6.48	0		9.03		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1515	-	-	-	684	1022
HCM Lane V/C Ratio	0.057	-	-	-	0.019	0.068
HCM Control Delay (s/veh)	7.5	-	-	-	10.4	8.8
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2

11: Driveway D & Legacy Boulevard

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	20	0	0	53	0	0
Future Vol, veh/h	20	0	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	64	64	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	0	83	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	36
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1573
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1573
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1573	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

12: Loop 101 WB Ramps/Loop 101 WB Frontage Road & Henkel Way

12/08/2023

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑	↗		↗
Traffic Vol, veh/h	0	0	150	0	0	5
Future Vol, veh/h	0	0	150	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	80	80	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	188	0	0	8
Major/Minor	Major2		Minor2			
Conflicting Flow All			-	0	-	188
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Critical Hdwy			-	-	-	6.22
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	-	-
Follow-up Hdwy			-	-	-	3.318
Pot Cap-1 Maneuver			-	-	0	855
Stage 1			-	-	0	-
Stage 2			-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver			-	-	-	855
Mov Cap-2 Maneuver			-	-	-	-
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Approach	WB		SB			
HCM Control Delay, s/v	0		9.25			
HCM LOS			A			
Minor Lane/Major Mvmt	WBT	WBR	SBLn1			
Capacity (veh/h)	-	-	855			
HCM Lane V/C Ratio	-	-	0.009			
HCM Control Delay (s/veh)	-	-	9.3			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0			



Appendix F – Trip Generation



One Scottsdale Planning Unit II

DMB Associates, Inc.

Trip Generation Calculations - Updated 11th Edition

Completed:
Checked:

	9/23	6/23		
Restaurant	102500	90000	sf	0.75
Fine Dining	76875	67500		0.25
High-Turnover	25625	22500		
Retail	42,500.00	45,000.00	sf	
Multifamily (4+)	1750	1750	units	
Low-Rise				
Mid-Rise	1750	1750		
Office	1,075,000.00	870,000.00	sf	
Hotel	270	270	keys	
Henkel	325156	325156		

821 Shopping Plaza (40-150k) (w/o Supermarket)																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Shopping Plaza (40-150k) (w/o Supermarket)	821	42.5	1000 Sq Ft GFA	67.52	50%	50%	1.73	62%	38%	5.19	49%	51%	2,870	1,435	1,435	74	46	28	221	108	113
Shopping Plaza (40-150k) (w/o Supermarket)	821	42.5	1000 Sq Ft GFA	43.29	50%	50%	0.29	62%	38%	2.55	49%	51%	1,840	920	920	12	7	5	108	53	55
Shopping Plaza (40-150k) (w/o Supermarket)	821	42.5	1000 Sq Ft GFA	91.06	50%	50%	3.77	62%	38%	15.31	49%	51%	3,870	1,935	1,935	160	99	61	651	319	332
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Shopping Plaza (40-150k) (w/o Supermarket)	821	42.5	1000 Sq Ft GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Average

Minimum

Maximum

Equation

Shopping Plaza (40-150k) (w/o Supermarket)	Standard Deviation	19.25		1.06		2.28	
	Number of Studies	7		13		42	
	Average Size	59		67		79	
	R ²	N/A		N/A		N/A	

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Hotel	310	270	Rooms	7.99	50%	50%	0.46	56%	44%	0.59	51%	49%	2,158	1,079	1,079	125	70	55	160	81	79
Hotel	310	270	Rooms	5.31	50%	50%	0.20	56%	44%	0.26	51%	49%	1,434	717	717	54	31	23	71	36	35
Hotel	310	270	Rooms	9.53	50%	50%	0.84	56%	44%	1.06	51%	49%	2,574	1,287	1,287	227	128	99	287	146	141
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Hotel	310	270	Rooms	T=10.84(X)-423.51	50%	50%	T=0.50(X)-7.45	56%	44%	T=0.74(X)-27.89	51%	49%	2,503	1,252	1,251	128	72	56	172	87	85

Average

Minimum

Maximum

Equation

Hotel	Standard Deviation	1.92		0.14		0.22	
	Number of Studies	7		28		31	
	Average Size	148		182		186	
	R ²	0.85		0.84		0.78	

931 Fine Dining Restaurant																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Fine Dining Restaurant	931	76.9	1000 SF GFA	83.84	50%	50%	0.73	55%	45%	7.8	67%	33%	6,445	3,223	3,222	56	31	25	600	402	198
Fine Dining Restaurant	931	76.9	1000 SF GFA	33.45	50%	50%	0.25	55%	45%	2.62	67%	33%	2,571	1286	1285	19	10	9	201	135	66
Fine Dining Restaurant	931	76.9	1000 SF GFA	139.93	50%	50%	1.6	55%	45%	18.68	67%	33%	10,757	5,379	5,378	123	68	55	1,436	962	474
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Fine Dining Restaurant	931	76.9	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Average

Minimum

Maximum

Equation

Fine Dining Restaurant	Standard Deviation	40.01		0.42		4.49	
	Number of Studies	10		7		19	
	Average Size	9		10		9	
	R ²	N/A		N/A		N/A	

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
High-Turnover (Sit-Down) Restaurant	932	25.6	1000 SF GFA	107.20	50%	50%	9.57	55%	45%	9.05	61%	39%	2,747	1,374	1,373	245	135	110	232	142	90
High-Turnover (Sit-Down) Restaurant	932	25.6	1000 SF GFA	13.04	50%	50%	0.76	55%	45%	0.92	61%	39%	334	167	167	19	10	9	24	15	9
High-Turnover (Sit-Down) Restaurant	932	25.6	1000 SF GFA	742.41	50%	50%	102.39	55%	45%	62.00	61%	39%	19,024	9,512	9,512	2,624	1,443	1,181	1,589	969	620
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
High-Turnover (Sit-Down) Restaurant	932	25.6	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Average

Minimum

Maximum

Equation

High-Turnover (Sit-Down) Restaurant	Standard Deviation	66.72		11.61		6.18	
	Number of Studies	50		37		104	
	Average Size	5		5		6	
	R ²	N/A		N/A		N/A	

710 General Office Building																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
General Office Building	710	749.8	1000 SF GFA	10.84	50%	50%	1.52	88%	12%	1.44	17%	83%	8,128	4,064	4,064	1,140	1003	137	1,080	184	896
General Office Building	710	749.8	1000 SF GFA	3.27	50%	50%	0.32	88%	12%	0.26	17%	83%	2,452	1226	1226	240	211	29	195	33	162
General Office Building	710	749.8	1000 SF GFA	27.56	50%	50%	4.93	88%	12%	6.2	17%	83%	20,666	10,333	10,333	3,697	3,253	444	4,649	790	3859
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
General Office Building	710	749.8	1000 SF GFA	$\ln(T)=0.87\ln(X)+3.05$	50%	50%	$\ln(T)=0.86\ln(X)+1.16$	88%	12%	$\ln(T)=0.83\ln(X)+1.29$	17%	83%	6,696	3,348	3,348	947	833	114	884	150	734

Average

Minimum

Maximum

Equation

General Office Building	Standard Deviation		4.76		0.58		0.6	
	Number of Studies		59		221		232	
	Average Size		163		201		199	
	R ²		0.78		0.78		0.77	

221 - Multifamily Housing (Mid-Rise)				(Three to Ten Levels)																	
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	1,750	Dwelling Units	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%	7,945	3973	3972	648	149	499	683	417	266
Multifamily Housing (Mid-Rise)	221	1,750	Dwelling Units	3.76	50%	50%	0.15	23%	77%	0.19	61%	39%	6,580	3290	3290	263	60	203	333	203	130
Multifamily Housing (Mid-Rise)	221	1,750	Dwelling Units	5.40	50%	50%	0.53	23%	77%	0.57	61%	39%	9,450	4725	4725	928	213	715	998	609	389
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	1,750	Dwelling Units	$T=4.77(X)-46.46$	50%	50%	$T=.44(X)-11.61$	23%	77%	$T=.39(X)+0.34$	61%	39%	8,301	4,151	4,150	758	174	584	683	417	266

Average

Minimum

Maximum

Equation

Multifamily Housing (Mid-Rise)	Standard Deviation		0.51		0.09		0.08	
	Number of Studies		11		30		31	
	Average Size		201		173		169	
	R ²		0.93		0.91		0.91	

220	Multifamily Housing (Low-Rise)			(One to Three Levels)																	
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	0	Dwelling Units	6.74	50%	50%	0.40	24%	76%	0.51	63%	37%	0	0	0	0	0	0	0	0	0
Multifamily Housing (Low-Rise)	220	0	Dwelling Units	2.46	50%	50%	0.13	24%	76%	0.08	63%	37%	0	0	0	0	0	0	0	0	0
Multifamily Housing (Low-Rise)	220	0	Dwelling Units	12.50	50%	50%	0.73	24%	76%	1.04	63%	37%	0	0	0	0	0	0	0	0	0
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	0	Dwelling Units	T=6.41(X)+75.31	50%	50%	T=0.31(X)+22.85	24%	76%	T=0.43(X)+20.55	63%	37%	75	38	37	23	6	17	21	13	8

Average

Minimum

Maximum

Equation

Multifamily Housing (Low-Rise)	Standard Deviation		1.79		0.12		0.15	
	Number of Studies		22		49		59	
	Average Size		229		249		241	
	R ²		0.86		0.79		0.84	

710 General Office Building																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
General Office Building	710	325.2	1000 SF GFA	10.84	50%	50%	1.52	88%	12%	1.44	17%	83%	3,525	1,763	1,762	494	435	59	468	80	388
General Office Building	710	325.2	1000 SF GFA	3.27	50%	50%	0.32	88%	12%	0.26	17%	83%	1,063	532	531	104	92	12	85	14	71
General Office Building	710	325.2	1000 SF GFA	27.56	50%	50%	4.93	88%	12%	6.2	17%	83%	8,961	4,481	4,480	1,603	1,411	192	2,016	343	1673
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
General Office Building	710	325.2	1000 SF GFA	$\text{Ln}(T)=0.87\text{Ln}(X)+3.05$	50%	50%	$\text{Ln}(T)=0.86\text{Ln}(X)+1.16$	88%	12%	$\text{Ln}(T)=0.83\text{Ln}(X)+1.29$	17%	83%	3,237	1,619	1,618	462	407	55	442	75	367

Average

Minimum

Maximum

Equation

General Office Building	Standard Deviation		4.76		0.58		0.6	
	Number of Studies		59		221		232	
	Average Size		163		201		199	
	R ²		0.78		0.78		0.77	



One Scottsdale Planning Unit III

DMB Associates, Inc.

Trip Generation Calculations - Updated 11th Edition

Completed:
Checked:

	9/23	6/23		
Restaurant	13000	16000	sf	0.75
High-Turnover	9750	12000		0.25
Fast-Food	3250	4000		
Retail	38,000.00	18,500.00	sf	
Day Care	-	4,500.00		
Auto	17000	16.00	fp	
Gas Station (5k)	16.00	9,500.00		
Strip Retail	16,000.00	750	units	
Multifamily (4+)	750	425		
Low-Rise	425	325		
Mid-Rise	325	133,000.00	sf	
Office	223,000.00	130	keys	
Hotel	130			

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Strip Retail Plaza (<40k)	822	16.0	1000 SF GLA	54.45	50%	50%	2.36	60%	40%	6.59	50%	50%	871	436	435	38	23	15	105	53	52
Strip Retail Plaza (<40k)	822	16.0	1000 SF GLA	47.86	50%	50%	1.60	60%	40%	2.81	50%	50%	766	383	383	26	16	10	45	23	22
Strip Retail Plaza (<40k)	822	16.0	1000 SF GLA	65.07	50%	50%	3.73	60%	40%	15.20	50%	50%	1,041	521	520	60	36	24	243	122	121
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Strip Retail Plaza (<40k)	822	16.0	1000 SF GLA	T=42.20(X)+229.68	50%	50%	Ln(T)=0.66Ln(X)+1.84	60%	40%	Ln(T)=0.71Ln(X)+2.72	50%	50%	905	453	452	40	24	16	109	55	54

Average

Minimum

Maximum

Equation

Strip Retail Plaza (<40k)	Standard Deviation	7.81		0.94		2.94	
	Number of Studies	4		5		25	
	Average Size	19		18		21	
	R ²	0.96		0.57		0.56	

945 Convenience Store/Gas (CFA 4-5.5k)																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Convenience Store/Gas Station	945	16	Fueling Positions	257.13	50%	50%	27.04	50%	50%	22.76	50%	50%	4,114	2,057	2,057	433	217	216	364	182	182
Convenience Store/Gas Station	945	16	Fueling Positions	193.00	50%	50%	7.78	50%	50%	9.78	50%	50%	3,088	1,544	1,544	124	62	62	156	78	78
Convenience Store/Gas Station	945	16	Fueling Positions	324.17	50%	50%	44.38	50%	50%	37.50	50%	50%	5,187	2,594	2,593	710	355	355	600	300	300
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Convenience Store/Gas Station	945	16	Fueling Positions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Average

Minimum

Maximum

Equation

Convenience Store/Gas Station	Standard Deviation	57.53		9.88		8.49	
	Number of Studies	5		18		23	
	Average Size	14		13		14	
	R ²	N/A		N/A		N/A	

942 Automobile Care Center																					
Land Use	ITE Code	Qty	Unit	Weekday ¹			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Automobile Care Center	942	17	1000 SF GFA	23.72	50%	50%	2.25	66%	34%	3.11	48%	52%	403	201	202	38	25	13	53	25	28
Automobile Care Center	942	17	1000 SF GFA	N/A	N/A	N/A	1.20	66%	34%	1.87	48%	52%	N/A	N/A	N/A	20	13	7	32	15	17
Automobile Care Center	942	17	1000 SF GFA	N/A	50%	N/A	5.30	66%	34%	5.65	48%	52%	N/A	N/A	N/A	90	59	31	96	46	50
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Automobile Care Center	942	17	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	$T=2.41(X)+11.83$	48%	52%	N/A	N/A	N/A	N/A	N/A	N/A	53	25	28

Average

Minimum

Maximum

Equation

Automobile Care Center	Standard Deviation	N/A		1.49		1.09	
	Number of Studies	2		6		6	
	Average Size	31		17		17	
	R ²	N/A		N/A		0.83	

¹Weekday data statistics not available. Weekday rate shown is based on data provided for Saturday.

311 All Suites Hotel																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
All Suites Hotel	311	130	Rooms	4.4	50%	50%	0.34	53%	47%	0.36	49%	51%	572	286	286	44	23	21	47	23	24
All Suites Hotel	311	130	Rooms	3.11	50%	50%	0.13	53%	47%	0.22	49%	51%	404	202	202	17	9	8	29	14	15
All Suites Hotel	311	130	Rooms	6.02	50%	50%	0.51	53%	47%	0.47	49%	51%	783	392	391	66	35	31	61	30	31
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
All Suites Hotel	311	130	Rooms	T=5.16(X)-112.23	50%	50%	T=0.47(X)-21.50	53%	47%	T=0.43(X)-9.93	49%	51%	559	280	279	40	21	19	46	23	23

Average

Minimum

Maximum

Equation

All Suites Hotel	Standard Deviation	0.93		0.13		0.08	
	Number of Studies	7		9		10	
	Average Size	147		164		159	
	R ²	0.92		0.74		0.87	

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
High-Turnover (Sit-Down) Restaurant	932	9.8	1000 SF GFA	107.20	50%	50%	9.57	55%	45%	9.05	61%	39%	1,045	523	522	93	51	42	88	54	34	Average
High-Turnover (Sit-Down) Restaurant	932	9.8	1000 SF GFA	13.04	50%	50%	0.76	55%	45%	0.92	61%	39%	127	64	63	7	4	3	9	5	4	Minimum
High-Turnover (Sit-Down) Restaurant	932	9.8	1000 SF GFA	742.41	50%	50%	102.39	55%	45%	62.00	61%	39%	7,238	3,619	3,619	998	549	449	605	369	236	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
High-Turnover (Sit-Down) Restaurant	932	9.8	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

High-Turnover (Sit-Down) Restaurant	Standard Deviation		66.72		11.61		6.18	
	Number of Studies		50		37		104	
	Average Size		5		5		6	
	R²		N/A		N/A		N/A	

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Fast-Food Restaurant with Drive-Through Window	934	3-3	1000 SF GFA	467.48	50%	50%	44.61	51%	49%	33.03	52%	48%	1,519	760	759	145	74	71	107	56	51	Average
Fast-Food Restaurant with Drive-Through Window	934	3-3	1000 SF GFA	98.89	50%	50%	1.05	51%	49%	8.77	52%	48%	321	161	160	3	2	1	29	15	14	Minimum
Fast-Food Restaurant with Drive-Through Window	934	3-3	1000 SF GFA	1137.66	50%	50%	164.25	51%	49%	117.22	52%	48%	3,697	1,849	1,848	534	272	262	381	198	183	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Fast-Food Restaurant with Drive-Through Window	934	3-3	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Fast-Food Restaurant with Drive-Through Window	Standard Deviation		238.62		27.14		17.59	
	Number of Studies		71		96		190	
	Average Size		3		4		3	
	R²		N/A		N/A		N/A	

720 Medical-Dental Office Building																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Medical-Dental Office Building	720	223.0	1000 SF GFA	36.00	50%	50%	3.10	79%	21%	3.93	30%	70%	8,028	4,014	4,014	691	546	145	876	263	613
Medical-Dental Office Building	720	223.0	1000 SF GFA	14.52	50%	50%	0.87	79%	21%	0.62	30%	70%	3,238	1619	1619	194	153	41	138	41	97
Medical-Dental Office Building	720	223.0	1000 SF GFA	100.75	50%	50%	14.3	79%	21%	8.86	30%	70%	22,467	11,234	11,233	3,189	2,519	670	1,976	593	1383
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Medical-Dental Office Building	720	223.0	1000 SF GFA	$T=42.97(X)-108.01$	50%	50%	$\ln(T)=0.90\ln(X)+1.34$	79%	21%	$T=4.07(X)-3.17$	30%	70%	9,474	4,737	4,737	496	392	104	904	271	633

Medical-Dental Office Building	Standard Deviation		13.38		1.49		1.86	
	Number of Studies		18		24		30	
	Average Size		15		25		23	
	R²		0.92		0.80		0.77	

221 - Multifamily Housing (Mid-Rise)				(Three to Ten Levels)																	
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	325	Dwelling Units	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%	1,476	738	738	120	28	92	127	77	50
Multifamily Housing (Mid-Rise)	221	325	Dwelling Units	3.76	50%	50%	0.15	23%	77%	0.19	61%	39%	1,222	611	611	49	11	38	62	38	24
Multifamily Housing (Mid-Rise)	221	325	Dwelling Units	5.40	50%	50%	0.53	23%	77%	0.57	61%	39%	1,755	878	877	172	40	132	185	113	72
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	325	Dwelling Units	T=4.77(X)-46.46	50%	50%	T=.44(X)-11.61	23%	77%	T=.39(X)+0.34	61%	39%	1,504	752	752	131	30	101	127	77	50

Multifamily Housing (Mid-Rise)	Standard Deviation		0.51		0.09		0.08	
	Number of Studies		11		30		31	
	Average Size		201		173		169	
	R²		0.93		0.91		0.91	

220Multifamily Housing (Lo (One to Three Levels))																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	425	Dwelling Units	6.74	50%	50%	0.40	24%	76%	0.51	63%	37%	2,865	1,433	1,432	170	41	129	217	137	80
Multifamily Housing (Low-Rise)	220	425	Dwelling Units	2.46	50%	50%	0.13	24%	76%	0.08	63%	37%	1,046	523	523	55	13	42	34	21	13
Multifamily Housing (Low-Rise)	220	425	Dwelling Units	12.50	50%	50%	0.73	24%	76%	1.04	63%	37%	5,313	2,657	2,656	310	74	236	442	278	164
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	425	Dwelling Units	T=6.41(X)+75.31	50%	50%	T=0.31(X)+22.85	24%	76%	T=0.43(X)+20.55	63%	37%	2,800	1,400	1,400	155	37	118	203	128	75

Multifamily Housing (Low-Rise)	Standard Deviation		1.79		0.12		0.15	
	Number of Studies		22		49		59	
	Average Size		229				241	
	R ²		0.86		0.79		0.84	

565Day Care Center																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Day Care Center	565	#VALUE!	1000 SF GFA	47.62	50%	50%	11.00	53%	47%	11.12	47%	53%	#VALUE!	#####	#####	#####	#####	#####	#####	#####	#VALUE!
Day Care Center	565	#VALUE!	1000 SF GFA	12.12	50%	50%	1.79	53%	47%	1.56	47%	53%	#VALUE!	#####	#####	#####	#####	#####	#####	#####	#VALUE!
Day Care Center	565	#VALUE!	no longer proposed	211.06	50%	50%	57.02	53%	47%	40.85	47%	53%	#VALUE!	#####	#####	#####	#####	#####	#####	#####	#VALUE!
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator		
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out
Day Care Center	565	#VALUE!	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Day Care Center	Standard Deviation		29.78		6.08		6.28	
	Number of Studies		27		89		90	
	Average Size		5		5		5	
	R ²		N/A		N/A		N/A	

One Scottsdale Planning Unit II & III

DMB Associates, Inc.

Completed:	KS	6/14/2021
Checked:	SS	9/1/2021

Pass-by Calculations

PU II		After Internal Capture									After Pass-By				After Internal Capture									After Pass-By			
Land Use		Square Feet	Dwelling Units/Rooms	BEFORE REDUCTION			AM REDUCED			PASS-BY	AM REDUCED				BEFORE REDUCTION			PM REDUCED			PASS-BY	PM REDUCED					
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	Rate %	ENTER	EXIT	TOTAL		ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	Rate %	ENTER	EXIT	TOTAL			
1	Office - 710	1,075,000		1,136	155	1,291	1,040	102	1,142		1,040	102	1,142		203	989	1,192	181	952	1,133		181	952	1,133			
2	Retail - 821	42,500.00		19	28	47	21	13	34		21	13	34		108	113	221	32	43	75	40%	19	26	45			
3	Restaurant - 931	76,875		31	25	56	16	15	31		16	15	31		402	198	600	308	105	413	44%	172	59	231			
3	Restaurant - 932	25,625		135	110	245	70	66	136		70	66	136		142	90	232	109	48	157	43%	62	27	89			
4	Residential - 221		1750	174	584	758	166	533	699		166	533	699		417	266	683	319	180	499		319	180	499			
5	Hotel - 310		270	72	56	128	69	15	84		69	15	84		87	85	172	53	56	109		53	56	109			
TOTAL				1,567	958	2,525	1,382	744	2,126		1,382	744	2,126		1,359	1,741	3,100	1,002	1,384	2,386		806	1,300	2,106			
				88%	78%	84%					100%	100%	100%					74%	79%	77%					80%	94%	88%

Restaurant	AM	PM	*Internal Capture			*Internal Capture						
IN	0.19	0.74	185	214	399	357	357	714	196	84	280	
OUT	0.19	0.69			16%			23%			12%	
						0.84198			0.67935		0.760668	
									weekday after reductions		31062.82	

PU III			After Internal Capture							After Pass-By				After Internal Capture							After Pass-By			
Land Use		Square Feet	Dwelling Units/Rooms	AM PEAK HR			AM REDUCED			PASS-BY	AM REDUCED				PM PEAK HR			PM REDUCED			PASS-BY	PM REDUCED		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	Rate %	ENTER	EXIT	TOTAL		ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	Rate %	ENTER	EXIT	TOTAL
1	Office - 720	223,000		392	104	496	325	46	371		325	46	371		271	633	904	258	602	860		258	602	860
2	Retail - 822	16,000.00		23	15	38	19	12	31		19	12	31		53	52	105	35	31	66	40%	21	19	40
2	Retail - 942	17,000.00		25	13	38	20	10	30		20	10	30		25	28	53	17	16	33		17	16	33
2	Retail - 945	5,000.00		217	216	433	176	173	349	76%	42	42	84		182	182	364	122	106	228	75%	31	27	58
3	Restaurant - 932	9,750		51	42	93	15	22	37		15	22	37		54	34	88	17	11	28	43%	10	6	16
3	Restaurant - 934	3,250		74	71	145	22	36	58	50%	11	18	29		56	51	107	38	15	53	55%	17	7	24
4	Residential - 220		425	37	118	155	35	101	136		35	101	136		128	75	203	71	46	117		71	46	117
4	Residential - 221		325	30	101	131	28	87	115		28	87	115		77	50	127	43	30	73		43	30	73
5	Hotel - 310		130	23	21	44	22	4	26		22	4	26		23	24	47	10	14	24		10	14	24
	TOTAL			872	701	1,573	662	491	1,153		517	342	859		869	1,129	1,998	611	871	1,482		478	767	1,245

[illegible]

Retail	AM	PM
IN	0.086792453	0.20385
OUT	0.060551362	0.19982

IN	0.094339623	0.09615
OUT	0.053331145	0.10669

Residential AM		PM
IN	0.552238806	0.62439
OUT	0.538812785	0.6

Restaurant		11	18	QT		134	131
% from Legacy	Scottsdale			% from Legacy	Scottsdale	34	33
		11	18			100	98
Int 3	IN		OUT	Int 4	IN		OUT
NBR		6		NBR		100	
SBL		5		WBR			98
WBR			18				
total		11	18	Int 5			
				SBL		34	
				WBL			33
				Int 16			
				EBT		34	
				SBR			33
				Int 10			
				EBU		34	
				total		134	131

Restaura	42	25	QT	91	79
% from 1Legacy			% from TI Legacy	23	20
Scottsda	42	25	Scottsdale	68	59
Int 3	IN	OUT	Int 4	IN	OUT
NBR	21		NBR	68	
SBL	21		WBR		59
WBR		25			
total	42	25	Int 5		
			SBL	23	
			WBL		20
			Int 16		
			EBT	23	
			SBR		20
			Int 10		
			EBU	23	
			total	91	79

AM	PM	Ave			
			Restaurant	196	84
	88%	95%	% from T Legacy		
	72%	34%	Scottsdale	196	84
	55%	69%			
	56%	68%	Int 6	IN	OUT
	92%	73%	NBR	33	
	66%	63%	SBL	33	
internal capture			WBR		17
pass-by	19%		WBL		17
	6%				
			Int 15		
			NBR	33	
			SBL	33	
			WBR		17
			Int 14		
			NBR	33	
			SBL		
	75%	95%	WBR		17
	82%	63%			
	79%	62%	Int 13		
	81%	63%	NBR	31	
	40%	32%	WBR		16
	40%	50%			
	88%	58%	total	196	84
	88%	57%			
	59%	51%			



Appendix G – MAG 2023 Socioeconomic Projections

Socioeconomic Projections

Population and Employment

by Municipal Planning Area, Jurisdiction, and Regional Analysis Zone

June 2023



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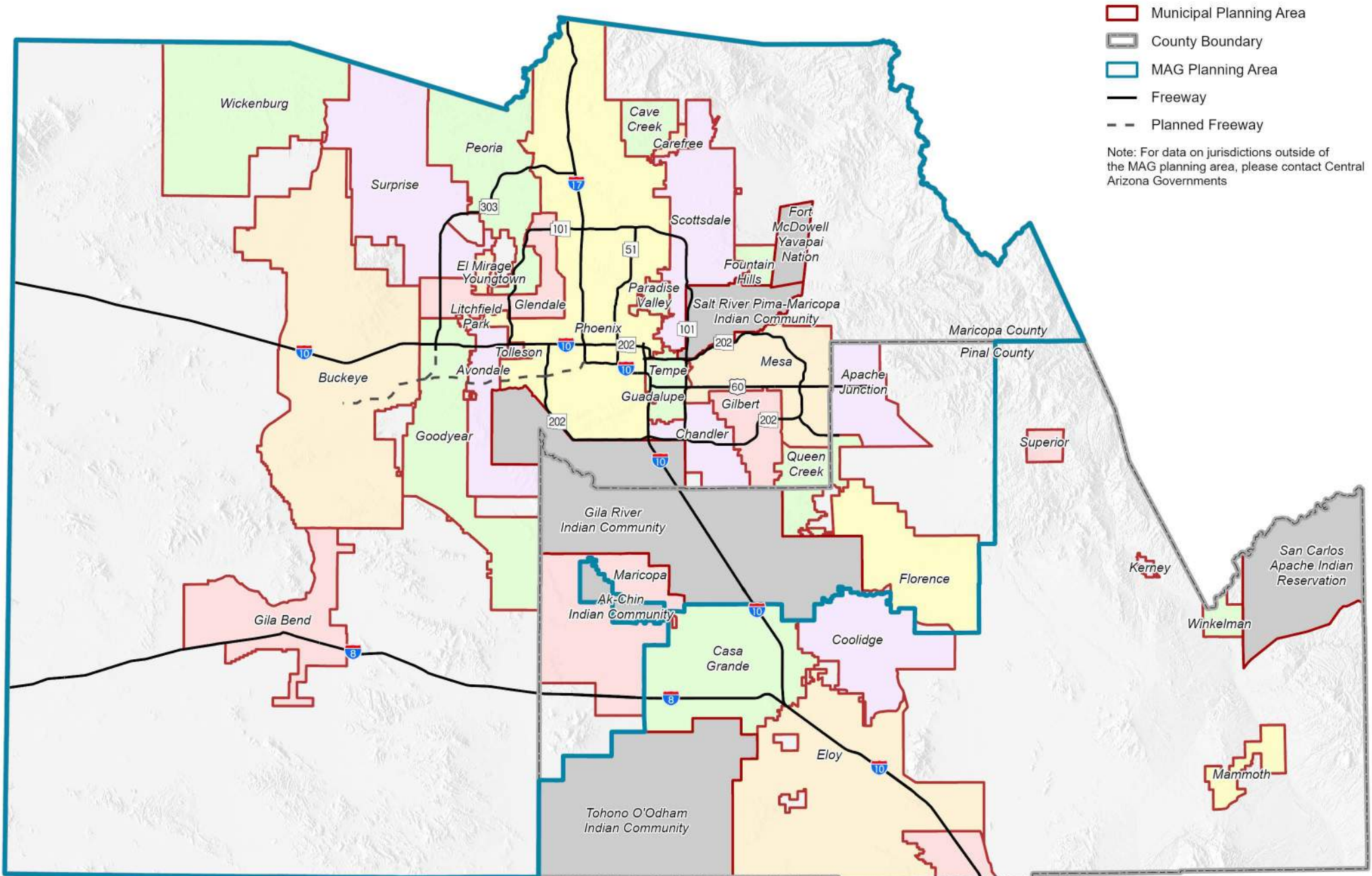
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**Population and Employment Projections
by
Municipal Planning Area (MPA)**

2020 to 2060

Municipal Planning Areas (2023)

Maricopa and Pinal Counties, Arizona



0 5 10 15 20 25 30 35 40 Miles

Date: May 2023

Source: MAG and the MAG Member Agencies, CAG and the CAG Member Agencies

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Maricopa Association of Governments

Table 1: Total Population by Municipal Planning Area
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

Municipal Planning Area	Total Population					
	2020	2022	2030	2040	2050	2060
Apache Junction	52,700	53,700	67,100	84,200	100,800	127,600
Avondale	91,100	94,000	117,800	130,900	135,400	137,700
Buckeye	109,700	124,400	194,400	296,200	397,800	491,000
Carefree	3,700	3,700	4,100	4,100	4,200	4,200
Cave Creek	5,000	5,300	5,600	5,900	6,100	6,200
Chandler	286,100	292,000	304,300	315,900	336,500	337,600
El Mirage	35,900	36,300	37,800	38,400	38,500	38,600
Florence	76,600	78,100	106,700	154,000	197,500	242,900
Fort McDowell Yavapai Native Nation	1,200	1,200	1,200	1,200	1,200	1,200
Fountain Hills	23,900	24,000	25,200	25,700	26,000	26,100
Gila Bend	2,100	2,100	2,500	2,500	2,500	2,500
Gila River Indian Native Nation	14,100	14,100	14,100	14,100	14,100	14,100
Gilbert	272,400	281,200	301,600	311,600	323,900	325,100
Glendale	282,200	291,000	323,600	345,300	353,200	354,900
Goodyear	99,900	109,200	165,100	210,000	241,200	276,700
Guadalupe	5,300	5,300	5,400	5,600	5,700	5,700
Litchfield Park	13,300	13,400	14,200	14,300	14,300	14,300
Maricopa	64,800	71,500	100,500	122,200	141,400	159,800
Mesa	550,300	561,500	589,900	624,200	645,500	661,200
Paradise Valley	12,700	12,700	13,300	13,300	13,400	13,400
Peoria	207,400	215,600	244,500	288,900	318,100	346,800
Phoenix	1,665,200	1,711,800	1,867,300	2,007,800	2,101,500	2,184,600
Queen Creek	72,700	84,700	121,000	135,700	149,400	154,900
Salt River Pima-Maricopa Native Nation	6,300	6,400	5,500	5,900	6,000	6,000
Scottsdale	241,800	245,100	275,700	286,700	301,300	307,300
Surprise	155,600	167,500	255,700	342,300	402,900	446,500
Tempe	181,600	187,400	219,300	247,500	258,000	269,700
Tolleson	7,300	7,300	8,100	8,900	9,600	10,300
Unincorporated Maricopa County	99,700	101,600	107,100	110,800	120,400	136,200
Unincorporated Pinal County	66,400	69,100	76,500	87,500	99,600	117,900
Wickenburg	7,800	8,000	8,600	8,600	8,700	8,700
Youngtown	7,100	7,100	7,500	7,700	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Maricopa Association of Governments
Table 2: Total Employment by Municipal Planning Area
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

Municipal Planning Area	Total Employment					
	2020	2022	2030	2040	2050	2060
Apache Junction	7,900	9,200	15,600	19,000	22,800	27,500
Avondale	24,900	28,100	33,600	39,600	42,400	46,800
Buckeye	25,900	26,200	50,100	92,400	126,800	183,600
Carefree	1,600	1,600	1,700	1,700	1,800	1,900
Cave Creek	2,400	2,600	2,800	3,000	3,300	3,500
Chandler	157,400	166,400	189,400	204,500	216,000	224,700
El Mirage	5,700	6,300	10,200	13,600	15,300	16,400
Florence	9,700	9,900	12,100	18,500	26,600	35,500
Fort McDowell Yavapai Native Nation	900	900	900	900	900	900
Fountain Hills	7,800	8,200	9,200	10,100	10,700	11,200
Gila Bend	1,000	1,000	1,100	1,200	1,300	2,000
Gila River Indian Native Nation	9,000	9,000	12,300	14,000	14,800	17,500
Gilbert	98,100	108,000	122,700	136,400	143,900	151,300
Glendale	103,300	111,900	136,400	155,800	171,900	183,900
Goodyear	46,000	59,200	87,200	110,600	124,100	142,800
Guadalupe	1,200	1,100	1,200	1,300	1,300	1,400
Litchfield Park	3,700	3,500	4,900	5,300	5,600	6,000
Maricopa	7,400	8,400	11,100	17,700	24,700	32,700
Mesa	197,400	208,200	237,500	277,300	308,900	331,500
Paradise Valley	4,700	4,700	5,100	5,500	5,500	5,800
Peoria	60,400	62,700	71,700	89,200	98,200	109,600
Phoenix	881,000	933,700	1,048,500	1,149,000	1,216,700	1,272,600
Queen Creek	21,100	22,300	30,700	35,000	39,700	42,900
Salt River Pima-Maricopa Native Nation	18,100	21,900	31,200	34,800	36,600	38,600
Scottsdale	188,900	207,100	230,500	246,500	255,000	264,000
Surprise	38,600	43,500	74,200	92,600	108,800	130,000
Tempe	192,400	207,900	233,700	253,400	264,400	273,000
Tolleson	17,600	19,000	20,600	21,500	22,000	22,400
Unincorporated Maricopa County	28,800	31,100	36,300	41,000	48,100	56,100
Unincorporated Pinal County	4,500	5,000	6,000	8,200	11,900	17,700
Wickenburg	4,300	4,200	4,400	4,500	4,500	4,600
Youngtown	1,600	1,600	1,700	2,200	2,300	2,500

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

**Population Projections
by
Jurisdiction**

Annually 2020 to 2060

Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population					
	2020	2021	2022	2023	2024	2025
Apache Junction	38,600	39,200	39,400	41,400	43,100	45,100
Avondale	89,500	90,800	92,300	95,200	99,400	104,500
Buckeye	93,600	102,000	106,300	111,500	119,100	127,700
Carefree	3,700	3,700	3,700	3,800	3,800	3,900
Cave Creek	4,900	5,000	5,200	5,200	5,300	5,300
Chandler	277,100	280,200	282,900	285,200	286,800	287,500
El Mirage	35,900	36,100	36,300	36,700	37,000	37,300
Florence	26,900	25,200	25,200	26,200	26,800	28,800
Fort McDowell	1,200	1,200	1,200	1,200	1,200	1,200
Fountain Hills	23,900	23,900	24,000	24,400	24,600	24,900
Gila Bend	1,900	1,900	1,900	1,900	2,100	2,200
Gila River	14,100	14,100	14,100	14,100	14,100	14,100
Gilbert	268,700	273,800	277,500	283,800	287,500	290,300
Glendale	248,700	250,600	254,000	258,300	261,600	264,400
Goodyear	96,800	101,700	106,100	113,800	120,300	126,400
Guadalupe	5,300	5,300	5,300	5,300	5,300	5,300
Litchfield Park	6,900	7,000	7,000	7,100	7,100	7,100
Maricopa	58,600	61,100	64,700	67,300	70,300	73,100
Mesa	505,400	510,800	516,400	523,000	527,000	529,900
Paradise Valley	12,700	12,700	12,700	12,800	13,100	13,300
Peoria	191,800	195,600	199,400	200,800	202,800	206,100
Phoenix	1,611,200	1,630,200	1,657,000	1,674,600	1,696,300	1,721,200
Queen Creek	60,800	66,300	71,000	78,000	83,400	86,700
Salt River	6,300	6,300	6,400	6,400	5,400	5,400
Scottsdale	241,700	243,500	245,000	250,600	256,300	259,200
Surprise	144,200	149,700	155,400	162,000	171,100	182,100
Tempe	181,600	181,500	187,400	196,200	201,100	204,100
Tolleson	7,300	7,300	7,300	7,300	7,400	7,600
Unincorporated Maricopa County	307,500	312,600	317,700	322,100	327,400	333,400
Unincorporated Pinal County	141,500	145,400	149,800	153,300	156,700	160,700
Wickenburg	7,500	7,700	8,000	8,300	8,700	9,100
Youngtown	7,100	7,100	7,100	7,100	7,300	7,400

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2026	2027	2028	2029	2030
Apache Junction	46,800	47,900	49,400	51,600	52,800
Avondale	107,500	110,100	112,100	113,400	114,200
Buckeye	135,200	143,200	150,300	158,200	164,700
Carefree	3,900	4,000	4,100	4,100	4,100
Cave Creek	5,300	5,400	5,400	5,400	5,500
Chandler	289,400	290,900	292,400	293,400	294,400
El Mirage	37,500	37,500	37,600	37,700	37,800
Florence	31,200	32,600	34,900	36,900	38,300
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	24,900	25,000	25,000	25,100	25,200
Gila Bend	2,200	2,200	2,200	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	291,800	293,700	295,100	296,300	297,400
Glendale	266,700	268,400	271,200	273,900	275,200
Goodyear	133,500	142,600	151,200	156,700	161,000
Guadalupe	5,400	5,400	5,400	5,400	5,400
Litchfield Park	7,100	7,200	7,200	7,300	7,700
Maricopa	78,000	82,300	87,000	89,900	91,500
Mesa	533,400	536,400	538,300	540,900	543,900
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	209,700	213,700	217,200	221,200	224,300
Phoenix	1,741,500	1,758,200	1,775,500	1,793,600	1,809,300
Queen Creek	89,700	92,600	94,700	95,900	97,000
Salt River	5,400	5,500	5,500	5,500	5,500
Scottsdale	261,500	266,200	270,100	273,400	275,600
Surprise	194,500	206,000	216,400	226,100	234,600
Tempe	206,400	208,500	211,700	215,200	219,200
Tolleson	7,700	7,700	7,700	7,700	8,100
Unincorporated Maricopa County	341,400	347,500	354,100	360,600	371,800
Unincorporated Pinal County	164,100	168,200	171,700	175,500	181,100
Wickenburg	9,300	9,600	9,900	10,200	10,500
Youngtown	7,400	7,400	7,500	7,500	7,500

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2021	2022	2023	2024	2025
Apache Junction	54,800	56,600	57,800	58,500	60,100
Avondale	115,700	116,900	118,400	119,800	120,500
Buckeye	169,700	174,400	180,700	186,900	193,100
Carefree	4,100	4,100	4,100	4,100	4,100
Cave Creek	5,500	5,500	5,600	5,600	5,700
Chandler	295,800	297,400	298,900	299,500	300,700
El Mirage	37,800	38,000	38,200	38,200	38,200
Florence	40,500	42,100	44,400	46,500	47,500
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	25,300	25,300	25,300	25,400	25,500
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	297,800	298,600	300,200	301,500	301,800
Glendale	277,600	279,800	281,600	283,000	285,300
Goodyear	166,200	169,700	173,700	177,500	181,100
Guadalupe	5,400	5,500	5,500	5,500	5,600
Litchfield Park	7,700	7,800	7,800	7,800	7,800
Maricopa	93,300	95,600	96,800	98,400	101,200
Mesa	547,900	552,100	556,500	560,000	562,100
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	228,200	233,300	236,800	241,700	245,200
Phoenix	1,823,600	1,838,400	1,852,500	1,866,300	1,881,500
Queen Creek	98,300	99,800	101,500	104,500	105,300
Salt River	5,500	5,800	5,800	5,800	5,800
Scottsdale	277,800	279,700	280,600	281,500	283,000
Surprise	240,400	245,400	250,600	256,300	261,900
Tempe	221,100	224,600	227,600	230,200	233,000
Tolleson	8,100	8,200	8,200	8,300	8,400
Unincorporated Maricopa County	384,400	395,400	406,200	417,000	428,300
Unincorporated Pinal County	186,000	190,500	195,800	200,000	205,500
Wickenburg	10,800	11,000	11,300	11,600	11,900
Youngtown	7,600	7,600	7,600	7,700	7,700

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions/areas outside of the MAG planning area, please contact Central Arizona Governments

Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2036	2037	2038	2039	2040
Apache Junction	61,700	62,600	64,700	65,800	67,100
Avondale	121,100	121,500	122,800	123,100	123,800
Buckeye	200,300	208,500	219,000	227,900	235,900
Carefree	4,100	4,100	4,100	4,100	4,100
Cave Creek	5,700	5,700	5,700	5,800	5,800
Chandler	301,300	301,900	302,500	303,300	304,900
El Mirage	38,300	38,400	38,400	38,400	38,400
Florence	48,900	51,200	53,200	54,400	56,300
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	25,500	25,600	25,600	25,600	25,700
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	302,900	303,500	304,500	305,200	305,700
Glendale	286,600	288,400	290,200	291,100	291,900
Goodyear	184,700	189,400	191,900	195,500	199,500
Guadalupe	5,600	5,600	5,600	5,600	5,600
Litchfield Park	7,800	7,800	7,800	7,800	7,800
Maricopa	102,300	103,600	104,700	105,500	106,800
Mesa	565,300	568,100	570,600	574,000	576,300
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	249,200	252,500	256,400	259,500	262,600
Phoenix	1,896,100	1,909,600	1,920,500	1,932,000	1,943,100
Queen Creek	105,800	108,000	108,700	109,800	110,700
Salt River	5,800	5,800	5,800	5,800	5,900
Scottsdale	284,400	284,900	285,500	286,100	286,600
Surprise	267,000	272,100	276,500	280,600	284,800
Tempe	235,200	237,100	239,400	243,300	246,200
Tolleson	8,500	8,800	8,800	8,800	8,900
Unincorporated Maricopa County	438,700	448,900	459,200	468,900	478,500
Unincorporated Pinal County	211,300	215,100	219,200	224,600	229,000
Wickenburg	12,100	12,400	12,700	13,000	13,300
Youngtown	7,700	7,700	7,700	7,700	7,700

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2041	2042	2043	2044	2045
Apache Junction	68,100	69,500	70,100	70,800	71,400
Avondale	124,200	124,600	125,400	125,700	125,900
Buckeye	244,400	251,900	261,000	269,800	275,900
Carefree	4,100	4,100	4,200	4,200	4,200
Cave Creek	5,800	5,800	5,800	5,900	5,900
Chandler	308,500	311,500	315,500	317,900	320,400
El Mirage	38,400	38,400	38,400	38,400	38,400
Florence	58,300	60,700	62,400	64,600	65,800
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	25,800	25,800	25,800	25,800	25,900
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	307,200	309,600	310,500	312,100	313,500
Glendale	293,300	294,200	295,200	296,000	296,800
Goodyear	201,800	205,000	207,600	210,800	213,700
Guadalupe	5,600	5,600	5,600	5,700	5,700
Litchfield Park	7,800	7,800	7,800	7,800	7,800
Maricopa	107,700	108,600	110,700	111,400	112,600
Mesa	578,300	580,500	582,500	584,000	586,100
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	266,500	269,800	272,700	274,400	276,400
Phoenix	1,951,300	1,960,100	1,967,700	1,976,200	1,985,700
Queen Creek	112,400	113,100	114,600	115,700	117,500
Salt River	5,900	5,900	5,900	5,900	6,000
Scottsdale	288,700	290,000	291,700	293,800	294,900
Surprise	289,300	292,800	296,200	299,200	303,100
Tempe	247,700	248,900	249,900	250,600	251,300
Tolleson	9,100	9,200	9,200	9,300	9,300
Unincorporated Maricopa County	486,500	495,700	503,400	512,300	521,400
Unincorporated Pinal County	232,700	236,500	240,900	244,900	251,400
Wickenburg	13,500	13,800	13,900	14,100	14,200
Youngtown	7,700	7,700	7,700	7,700	7,700

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2046	2047	2048	2049	2050
Apache Junction	73,100	73,600	74,700	75,800	76,600
Avondale	126,100	126,100	126,400	126,900	127,000
Buckeye	282,400	288,900	296,300	301,800	307,600
Carefree	4,200	4,200	4,200	4,200	4,200
Cave Creek	5,900	5,900	5,900	6,000	6,000
Chandler	322,300	323,600	324,300	324,500	325,400
El Mirage	38,500	38,500	38,500	38,500	38,500
Florence	67,400	68,600	70,200	72,400	75,000
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	25,900	25,900	25,900	25,900	26,000
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	314,600	315,700	316,000	316,400	316,600
Glendale	297,800	298,000	298,200	298,400	298,700
Goodyear	216,400	219,500	221,800	224,400	226,400
Guadalupe	5,700	5,700	5,700	5,700	5,700
Litchfield Park	7,800	7,800	7,900	7,900	7,900
Maricopa	113,900	114,800	115,300	115,800	117,600
Mesa	587,700	589,600	591,800	593,900	596,100
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	279,200	282,000	284,000	286,600	288,900
Phoenix	1,995,700	2,005,300	2,014,900	2,023,700	2,032,900
Queen Creek	118,800	119,800	121,100	121,900	123,600
Salt River	6,000	6,000	6,000	6,000	6,000
Scottsdale	296,600	298,000	298,800	300,500	301,200
Surprise	305,600	308,500	311,400	313,500	316,400
Tempe	251,800	252,200	253,000	254,700	255,500
Tolleson	9,300	9,400	9,400	9,600	9,600
Unincorporated Maricopa County	529,900	538,400	548,000	556,900	566,600
Unincorporated Pinal County	256,600	262,800	268,000	273,500	280,000
Wickenburg	14,300	14,400	14,400	14,400	14,400
Youngtown	7,800	7,800	7,800	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2051	2052	2053	2054	2055
Apache Junction	78,600	79,900	81,400	82,600	83,600
Avondale	127,300	127,400	127,600	127,700	128,000
Buckeye	313,800	320,000	327,500	333,500	343,300
Carefree	4,200	4,200	4,200	4,200	4,200
Cave Creek	6,000	6,000	6,000	6,000	6,000
Chandler	325,700	325,800	326,100	326,100	326,200
El Mirage	38,500	38,600	38,600	38,600	38,600
Florence	77,500	80,400	82,000	84,600	86,600
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	26,000	26,000	26,000	26,000	26,000
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	316,800	317,000	317,100	317,200	317,200
Glendale	298,900	299,200	299,700	299,800	299,800
Goodyear	229,200	232,000	234,400	237,400	239,200
Guadalupe	5,700	5,700	5,700	5,700	5,700
Litchfield Park	7,900	7,900	7,900	7,900	7,900
Maricopa	118,200	119,400	120,300	121,800	122,900
Mesa	597,600	599,100	600,700	602,500	603,900
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	292,400	294,200	295,900	299,000	301,300
Phoenix	2,042,300	2,050,400	2,059,700	2,068,800	2,076,500
Queen Creek	124,300	125,200	125,400	125,800	126,300
Salt River	6,000	6,000	6,000	6,000	6,000
Scottsdale	302,000	303,000	303,400	304,200	304,700
Surprise	318,500	320,500	323,300	324,700	326,000
Tempe	257,200	258,800	259,500	260,500	261,700
Tolleson	9,700	9,900	10,200	10,200	10,200
Unincorporated Maricopa County	573,700	582,900	590,400	598,600	606,300
Unincorporated Pinal County	285,200	291,000	296,700	303,100	310,800
Wickenburg	14,400	14,400	14,400	14,400	14,400
Youngtown	7,800	7,800	7,800	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 3: Annual Population by Jurisdiction
July 1, 2020, 2021, 2022 and Projections July 1, 2023 to July 1, 2060

Place	Total Population				
	2056	2057	2058	2059	2060
Apache Junction	85,900	87,600	89,200	90,100	91,100
Avondale	128,100	128,300	128,500	128,600	128,800
Buckeye	350,100	356,200	362,900	369,700	375,800
Carefree	4,200	4,200	4,200	4,200	4,200
Cave Creek	6,000	6,000	6,000	6,100	6,100
Chandler	326,200	326,300	326,400	326,400	326,400
El Mirage	38,600	38,600	38,600	38,600	38,600
Florence	88,400	90,000	92,500	94,400	96,700
Fort McDowell	1,200	1,200	1,200	1,200	1,200
Fountain Hills	26,000	26,000	26,100	26,100	26,100
Gila Bend	2,300	2,300	2,300	2,300	2,300
Gila River	14,100	14,100	14,100	14,100	14,100
Gilbert	317,300	317,500	317,500	317,500	317,600
Glendale	299,900	300,000	300,100	300,100	300,200
Goodyear	242,600	245,700	248,800	253,100	256,900
Guadalupe	5,700	5,700	5,700	5,700	5,700
Litchfield Park	7,900	7,900	7,900	7,900	7,900
Maricopa	123,600	125,300	126,600	127,900	128,900
Mesa	606,300	607,300	608,300	609,500	610,500
Paradise Valley	13,300	13,300	13,300	13,300	13,300
Peoria	303,500	306,600	308,900	311,400	314,600
Phoenix	2,083,400	2,092,300	2,100,700	2,108,100	2,114,000
Queen Creek	126,500	126,700	126,800	126,900	127,100
Salt River	6,000	6,000	6,000	6,000	6,000
Scottsdale	305,200	305,300	305,600	306,200	307,100
Surprise	328,200	329,600	331,700	333,400	335,700
Tempe	262,900	264,100	264,400	265,800	266,700
Tolleson	10,200	10,300	10,300	10,300	10,300
Unincorporated Maricopa County	614,200	622,100	630,700	637,500	645,800
Unincorporated Pinal County	317,600	323,100	329,800	336,200	342,200
Wickenburg	14,400	14,400	14,400	14,400	14,400
Youngtown	7,800	7,800	7,800	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community, and the Maricopa County and Yavapai County portions of Peoria and Wickenburg. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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**Population and Employment Projections
by
Regional Analysis Zone (RAZ)**

2020 to 2060

**MARICOPA
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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Apache Junction MPA							
350	Pinal	7,091	7,125	8,392	14,396	18,790	28,250
351	Pinal	22,875	23,296	24,556	24,774	25,682	28,417
352	Pinal	11,054	11,252	11,614	11,801	11,900	12,071
353	Pinal	11,257	11,534	12,609	13,862	14,900	16,713
375	Maricopa	395	400	400	400	400	400
430	Pinal	73	73	9,573	18,952	29,145	41,796
Total		52,745	53,680	67,144	84,185	100,817	127,647
Avondale MPA							
273	Maricopa	61,316	62,674	77,365	84,851	87,225	88,019
282	Maricopa	29,787	31,287	40,383	45,913	48,127	49,359
303	Maricopa	23	23	23	89	89	282
Total		91,126	93,984	117,771	130,853	135,441	137,660
Buckeye MPA							
253	Maricopa	24,233	31,050	50,127	63,296	72,165	79,515
277	Maricopa	3,025	3,151	4,021	16,956	31,517	45,780
278	Maricopa	40,796	42,985	72,290	89,978	101,838	109,693
279	Maricopa	21,255	23,614	31,448	47,782	56,768	63,454
340	Maricopa	8,151	9,662	16,010	46,680	88,591	131,681
341	Maricopa	7,507	9,319	15,830	26,856	42,293	56,246
343	Maricopa	4,773	4,634	4,634	4,634	4,634	4,634
Total		109,740	124,415	194,360	296,182	397,806	491,003
Carefree MPA							
208	Maricopa	3,692	3,721	4,076	4,146	4,175	4,213
Total		3,692	3,721	4,076	4,146	4,175	4,213
Cave Creek MPA							
207	Maricopa	5,029	5,283	5,579	5,901	6,098	6,181
Total		5,029	5,283	5,579	5,901	6,098	6,181

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Chandler MPA							
310	Maricopa	52,605	53,151	53,951	55,245	67,304	68,080
315	Maricopa	40,816	41,024	41,126	42,128	42,486	42,620
316	Maricopa	37,089	37,366	42,624	46,383	48,689	48,730
317	Maricopa	33,314	33,627	34,815	38,544	43,787	43,818
325	Maricopa	47,238	49,471	50,721	51,342	51,796	51,860
327	Maricopa	27,143	28,146	29,766	30,180	30,253	30,253
328	Maricopa	47,865	49,184	51,261	52,110	52,212	52,237
Total		286,070	291,969	304,264	315,932	336,527	337,598
El Mirage MPA							
235	Maricopa	35,927	36,275	37,825	38,412	38,539	38,649
Total		35,927	36,275	37,825	38,412	38,539	38,649
Florence MPA							
394	Pinal	24,189	24,585	40,293	60,963	76,838	94,450
395	Pinal	11,112	9,895	10,092	13,181	20,578	30,315
396	Pinal	41,252	43,666	56,358	79,855	100,044	118,095
Total		76,553	78,146	106,743	153,999	197,460	242,860
Fort McDowell Yavapai Native Nation MPA							
251	Maricopa	1,152	1,153	1,154	1,154	1,154	1,154
Total		1,152	1,153	1,154	1,154	1,154	1,154
Fountain Hills MPA							
250	Maricopa	23,857	23,972	25,185	25,739	25,967	26,076
Total		23,857	23,972	25,185	25,739	25,967	26,076
Gila Bend MPA							
331	Maricopa	2,133	2,134	2,501	2,501	2,513	2,513
Total		2,133	2,134	2,501	2,501	2,513	2,513
Gila River Indian Native Nation MPA							
324	Maricopa	3,583	3,585	3,588	3,589	3,590	3,591
397	Pinal	10,471	10,472	10,472	10,472	10,472	10,472
Total		14,054	14,057	14,060	14,061	14,062	14,063

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Gilbert MPA							
311	Maricopa	69,411	69,642	71,276	73,517	79,515	79,903
312	Maricopa	33,899	34,719	37,361	37,735	38,700	38,794
318	Maricopa	47,594	50,126	54,807	55,829	56,183	56,195
319	Maricopa	78,161	81,684	88,273	90,087	93,671	93,976
329	Maricopa	43,314	45,035	49,913	54,426	55,868	56,256
Total		272,379	281,206	301,630	311,594	323,937	325,124
Glendale MPA							
222	Maricopa	47,229	47,901	48,910	49,860	50,144	50,408
240	Maricopa	43,470	43,950	46,828	47,339	47,488	47,627
254	Maricopa	14,461	15,963	25,521	28,608	29,298	29,460
255	Maricopa	19,612	21,628	26,112	27,621	27,967	28,157
257	Maricopa	52,362	55,426	67,618	81,939	87,370	88,010
258	Maricopa	105,065	106,175	108,565	109,980	110,903	111,284
Total		282,199	291,043	323,554	345,347	353,170	354,946
Goodyear MPA							
265	Maricopa	37,748	41,993	48,211	51,222	52,679	53,412
280	Maricopa	46,160	49,944	76,288	87,075	90,433	92,968
302	Maricopa	15,502	16,790	34,171	50,615	58,251	61,535
323	Maricopa	350	361	6,307	20,913	39,666	68,609
373	Maricopa	142	142	142	142	142	142
Total		99,902	109,230	165,119	209,967	241,171	276,666
Guadalupe MPA							
307	Maricopa	5,326	5,333	5,424	5,625	5,665	5,670
Total		5,326	5,333	5,424	5,625	5,665	5,670
Litchfield Park MPA							
266	Maricopa	13,280	13,443	14,181	14,279	14,286	14,320
Total		13,280	13,443	14,181	14,279	14,286	14,320
Maricopa MPA							
399	Pinal	58,794	64,928	91,824	106,902	117,432	127,948
400	Pinal	1,990	2,410	3,759	4,638	5,349	6,530
403	Pinal	908	923	1,479	6,984	14,931	21,217
404	Pinal	3,149	3,285	3,476	3,652	3,677	4,155
Total		64,841	71,546	100,538	122,176	141,389	159,850

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Mesa MPA							
289	Maricopa	61,363	61,990	63,704	73,872	77,197	79,794
290	Maricopa	77,816	78,733	81,667	90,338	100,200	104,837
291	Maricopa	48,178	48,335	50,819	54,026	54,403	54,645
292	Maricopa	23,477	23,614	24,730	24,944	24,974	25,011
293	Maricopa	32,057	32,192	32,498	32,571	32,574	32,667
294	Maricopa	11,120	11,248	11,717	11,979	12,002	12,007
295	Maricopa	22,502	23,247	23,820	24,730	24,756	24,792
298	Maricopa	54,657	54,707	54,846	54,994	55,915	57,072
299	Maricopa	44,407	45,334	47,086	48,682	48,980	49,724
300	Maricopa	48,743	50,173	54,401	55,788	57,080	57,897
309	Maricopa	47,261	48,389	48,776	49,042	49,144	49,993
320	Maricopa	986	1,409	1,469	1,537	1,572	1,791
321	Maricopa	24,022	24,365	27,907	32,803	34,575	35,951
322	Maricopa	53,753	57,756	66,431	68,881	72,115	74,991
Total		550,342	561,492	589,871	624,187	645,487	661,172
Paradise Valley MPA							
262	Maricopa	12,705	12,734	13,329	13,347	13,360	13,383
Total		12,705	12,734	13,329	13,347	13,360	13,383
Peoria MPA							
202	Maricopa	3,535	5,081	17,108	33,079	44,957	54,978
213	Maricopa	19,517	21,595	25,727	34,023	39,105	45,948
214	Maricopa	34,605	35,794	40,241	48,606	52,694	57,730
215	Maricopa	55,587	56,515	59,575	61,562	62,455	62,832
238	Maricopa	56,536	57,207	57,600	58,753	59,056	59,182
239	Maricopa	37,502	39,288	41,844	44,884	45,630	47,203
344	Maricopa	117	117	2,439	7,965	14,189	18,966
Total		207,399	215,597	244,534	288,872	318,086	346,839

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Phoenix MPA							
203	Maricopa	2,525	2,587	2,846	5,540	7,758	8,783
205	Maricopa	6,473	6,461	7,641	18,032	24,109	33,046
206	Maricopa	43,843	44,197	46,066	47,023	48,516	49,502
216	Maricopa	0	0	12,562	21,681	27,785	31,329
217	Maricopa	20,369	20,860	26,504	36,001	41,197	46,180
218	Maricopa	16,431	16,563	16,935	18,085	18,383	18,930
219	Maricopa	11,455	11,505	14,896	21,074	25,449	27,913
223	Maricopa	49,186	50,405	53,495	54,557	54,930	55,003
224	Maricopa	47,101	47,109	47,501	47,620	47,667	47,675
225	Maricopa	20,886	25,304	37,255	39,442	40,141	40,905
226	Maricopa	69,525	69,671	70,560	70,748	70,830	70,846
227	Maricopa	53,307	54,153	58,325	61,940	66,618	69,185
228	Maricopa	16,387	18,806	34,105	42,640	48,369	52,681
241	Maricopa	44,876	44,883	45,284	45,433	45,802	46,011
242	Maricopa	29,425	29,433	30,260	30,847	30,961	30,977
243	Maricopa	62,130	62,738	64,474	71,869	77,087	81,192
244	Maricopa	51,260	51,535	52,391	53,379	54,523	55,755
245	Maricopa	55,746	55,906	56,372	56,812	57,047	57,122
246	Maricopa	56,737	61,638	69,859	71,238	71,514	72,701
259	Maricopa	85,811	85,399	87,751	93,624	97,427	101,874
260	Maricopa	56,437	56,711	60,212	69,097	74,351	76,850
261	Maricopa	33,992	34,755	35,784	37,666	38,456	41,030
267	Maricopa	85,636	87,169	92,396	96,988	99,248	101,622
268	Maricopa	94,997	95,000	95,974	96,713	96,809	96,967
269	Maricopa	61,569	61,611	61,925	63,059	63,262	63,952
270	Maricopa	67,444	72,646	80,659	94,788	104,104	111,188
271	Maricopa	62,834	64,417	67,112	67,704	68,834	69,919
275	Maricopa	29,734	40,784	53,976	66,331	72,794	76,615
276	Maricopa	49,834	51,047	54,216	57,531	59,270	60,882
283	Maricopa	49,248	51,090	59,530	64,863	66,970	67,635
284	Maricopa	14,737	15,266	15,978	16,718	17,046	18,398
285	Maricopa	13,861	14,162	14,224	14,262	14,294	14,406
286	Maricopa	13,171	13,293	13,911	15,539	17,831	19,366
287	Maricopa	17,209	17,801	21,438	23,944	25,386	26,238
296	Maricopa	38,166	38,522	40,679	42,354	47,862	55,494
304	Maricopa	51,517	54,477	69,024	72,738	74,709	77,796
305	Maricopa	44,075	45,515	51,580	53,579	54,538	54,778
306	Maricopa	56,738	57,692	60,556	61,248	63,777	67,362
313	Maricopa	42,895	43,075	45,075	46,866	47,618	48,173

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

RAZ	County	Total Population					
		2020	2022	2030	2040	2050	2060
314	Maricopa	37,654	37,656	37,924	38,208	38,245	38,273
	Total	1,665,221	1,711,842	1,867,255	2,007,781	2,101,517	2,184,554
Queen Creek MPA							
339	Maricopa	58,034	67,372	91,357	98,352	102,698	104,899
422	Pinal	9	9	355	825	1,090	1,187
423	Pinal	1,284	1,804	7,229	10,394	13,757	15,034
424	Pinal	13,374	15,505	22,063	26,173	31,897	33,784
	Total	72,701	84,690	121,004	135,744	149,442	154,904
Salt River Pima-Maricopa Native Nation MPA							
264	Maricopa	6,321	6,371	5,472	5,910	5,958	5,986
	Total	6,321	6,371	5,472	5,910	5,958	5,986
Scottsdale MPA							
209	Maricopa	12,186	12,237	13,925	14,813	15,229	15,325
210	Maricopa	5,401	5,440	10,837	13,513	14,877	15,103
229	Maricopa	20,082	20,629	25,671	27,204	27,965	28,388
230	Maricopa	32,628	33,161	38,951	42,175	50,225	52,713
247	Maricopa	12,989	13,444	14,890	14,914	15,979	16,882
248	Maricopa	35,985	36,003	36,241	36,342	36,555	36,721
249	Maricopa	21,224	21,278	21,705	21,939	21,943	21,943
263	Maricopa	34,070	34,350	35,754	36,059	36,068	36,086
272	Maricopa	67,265	68,529	77,768	79,739	82,453	84,092
	Total	241,830	245,071	275,742	286,698	301,294	307,253
Surprise MPA							
211	Maricopa	953	986	15,067	34,178	46,346	51,784
212	Maricopa	14,308	19,823	60,689	86,822	102,313	111,271
232	Maricopa	30,239	30,649	30,736	30,776	30,805	30,830
233	Maricopa	93,826	99,071	122,651	131,248	135,641	137,859
234	Maricopa	9,478	9,570	10,536	10,937	11,016	11,054
371	Maricopa	250	272	272	552	3,233	8,500
504	Maricopa	6,509	7,108	15,748	47,799	73,562	95,230
	Total	155,563	167,479	255,699	342,312	402,916	446,528

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Tempe MPA							
288	Maricopa	75,725	81,192	110,909	135,408	142,669	151,078
297	Maricopa	50,706	51,001	53,103	56,764	59,634	62,368
308	Maricopa	55,184	55,196	55,321	55,374	55,664	56,243
	Total	181,615	187,389	219,333	247,546	257,967	269,689
Tolleson MPA							
274	Maricopa	7,262	7,315	8,082	8,907	9,617	10,336
	Total	7,262	7,315	8,082	8,907	9,617	10,336
Unincorporated Maricopa County MPA							
221	Maricopa	27,252	27,355	27,480	27,644	27,710	27,755
231	Maricopa	2,440	2,492	2,497	2,497	2,497	2,497
237	Maricopa	38,529	38,572	38,804	38,918	38,997	39,071
252	Maricopa	0	0	0	0	0	0
301	Maricopa	3,997	4,086	4,419	4,665	4,771	4,796
326	Maricopa	11,273	11,279	11,314	11,341	11,354	11,361
330	Maricopa	124	124	124	124	124	124
332	Maricopa	4	4	4	4	4	4
333	Maricopa	766	766	1,861	2,373	2,820	3,297
334	Maricopa	0	0	49	126	156	211
335	Maricopa	871	909	942	1,006	1,085	1,140
336	Maricopa	701	775	2,460	2,577	2,694	2,872
337	Maricopa	53	53	78	86	100	119
342	Maricopa	207	208	619	1,150	1,564	1,999
345	Maricopa	5,273	6,212	6,216	6,216	6,221	6,221
346	Maricopa	7,218	7,676	9,073	9,821	16,246	29,782
348	Maricopa	423	425	425	425	425	425
349	Maricopa	349	349	352	360	362	367
374	Maricopa	0	0	0	0	0	0
503	Maricopa	255	287	341	1,435	3,233	4,134
	Total	99,735	101,572	107,058	110,768	120,363	136,175

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Population					
RAZ	County	2020	2022	2030	2040	2050	2060
Unincorporated Pinal County MPA							
360	Pinal	17	24	24	24	24	328
361	Pinal	2	2	2	2	2	2
362	Pinal	0	0	0	0	0	0
407	Pinal	29,050	29,199	33,311	39,775	50,219	65,883
409	Pinal	8,179	8,851	11,036	15,213	16,738	18,866
411	Pinal	28,822	30,662	31,819	32,195	32,285	32,547
412	Pinal	207	216	216	216	216	216
429	Pinal	19	28	28	28	28	28
438	Pinal	70	70	70	70	70	70
508	Pinal	0	0	0	0	0	0
Total		66,366	69,052	76,506	87,523	99,582	117,940
Wickenburg MPA							
201	Maricopa	7,771	7,932	8,499	8,570	8,603	8,643
338	Maricopa	55	58	58	58	58	58
347	Maricopa	0	0	0	0	6	6
Total		7,826	7,990	8,557	8,628	8,667	8,707
Youngtown MPA							
236	Maricopa	7,056	7,060	7,491	7,726	7,780	7,822
Total		7,056	7,060	7,491	7,726	7,780	7,822

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

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Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Apache Junction MPA							
350	Pinal	1,339	1,781	1,881	2,198	2,923	4,083
351	Pinal	3,452	3,498	3,780	4,413	5,113	6,271
352	Pinal	1,734	1,744	1,898	2,198	2,607	3,078
353	Pinal	1,277	1,507	1,671	1,928	2,520	3,132
375	Maricopa	33	28	28	33	31	31
430	Pinal	25	639	6,345	8,225	9,564	10,933
Total		7,860	9,197	15,603	18,995	22,758	27,528
Avondale MPA							
273	Maricopa	19,957	23,047	27,706	31,181	32,934	34,258
282	Maricopa	4,877	4,979	5,767	7,878	8,745	11,439
303	Maricopa	52	53	77	581	709	1,061
Total		24,886	28,079	33,550	39,640	42,388	46,758
Buckeye MPA							
253	Maricopa	7,732	6,056	8,349	12,836	15,513	17,748
277	Maricopa	879	844	3,165	13,819	22,307	44,205
278	Maricopa	9,742	11,936	16,011	22,737	27,143	30,452
279	Maricopa	3,532	4,118	8,886	16,491	22,877	31,214
340	Maricopa	1,249	874	6,133	15,157	22,546	37,319
341	Maricopa	1,519	1,281	6,068	9,882	14,901	21,174
343	Maricopa	1,276	1,062	1,521	1,482	1,492	1,469
Total		25,929	26,171	50,133	92,404	126,779	183,581
Carefree MPA							
208	Maricopa	1,553	1,553	1,659	1,748	1,807	1,876
Total		1,553	1,553	1,659	1,748	1,807	1,876
Cave Creek MPA							
207	Maricopa	2,394	2,587	2,826	2,971	3,251	3,490
Total		2,394	2,587	2,826	2,971	3,251	3,490

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Chandler MPA							
310	Maricopa	21,336	21,647	22,852	24,773	29,165	31,402
315	Maricopa	40,905	42,057	44,289	46,475	47,570	48,430
316	Maricopa	28,818	28,354	31,693	34,155	35,131	36,130
317	Maricopa	8,446	8,590	9,707	11,486	12,571	14,044
325	Maricopa	33,588	38,276	48,197	51,538	53,785	55,244
327	Maricopa	14,410	17,261	21,978	24,436	25,762	26,985
328	Maricopa	9,898	10,249	10,702	11,589	12,022	12,488
Total		157,401	166,434	189,418	204,452	216,006	224,723
El Mirage MPA							
235	Maricopa	5,664	6,338	10,238	13,573	15,318	16,450
Total		5,664	6,338	10,238	13,573	15,318	16,450
Florence MPA							
394	Pinal	4,953	5,022	6,089	8,847	12,588	16,675
395	Pinal	1,953	1,575	1,901	3,038	4,270	5,551
396	Pinal	2,747	3,279	4,148	6,616	9,776	13,251
Total		9,653	9,876	12,138	18,501	26,634	35,477
Fort McDowell Yavapai Native Nation MPA							
251	Maricopa	917	881	879	879	881	874
Total		917	881	879	879	881	874
Fountain Hills MPA							
250	Maricopa	7,850	8,248	9,206	10,083	10,706	11,217
Total		7,850	8,248	9,206	10,083	10,706	11,217
Gila Bend MPA							
331	Maricopa	952	1,047	1,107	1,224	1,304	2,016
Total		952	1,047	1,107	1,224	1,304	2,016
Gila River Indian Native Nation MPA							
324	Maricopa	6,857	6,956	9,476	11,136	11,785	14,310
397	Pinal	2,115	2,011	2,801	2,910	3,038	3,174
Total		8,972	8,967	12,277	14,046	14,823	17,484

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Gilbert MPA							
311	Maricopa	34,378	37,029	40,646	43,856	45,241	47,559
312	Maricopa	10,744	11,669	12,871	14,658	15,856	16,964
318	Maricopa	29,706	33,753	40,466	44,899	47,678	49,534
319	Maricopa	14,725	16,899	19,885	22,876	24,162	25,725
329	Maricopa	8,588	8,608	8,856	10,074	10,950	11,552
Total		98,141	107,958	122,724	136,363	143,887	151,334
Glendale MPA							
222	Maricopa	22,906	23,439	25,026	26,437	26,952	27,844
240	Maricopa	19,545	19,697	20,758	21,975	22,587	23,080
254	Maricopa	2,507	5,259	8,523	9,935	11,677	13,809
255	Maricopa	13,868	16,481	26,065	32,509	38,608	42,172
257	Maricopa	18,179	19,108	26,788	33,513	39,498	43,738
258	Maricopa	26,266	27,923	29,259	31,463	32,543	33,298
Total		103,271	111,907	136,419	155,832	171,865	183,941
Goodyear MPA							
265	Maricopa	19,980	24,515	32,257	38,237	42,439	46,093
280	Maricopa	22,306	31,545	45,534	54,101	59,139	63,884
302	Maricopa	3,589	2,959	6,817	10,753	11,740	13,968
323	Maricopa	30	56	2,531	7,418	10,692	18,802
373	Maricopa	71	75	77	79	70	76
Total		45,976	59,150	87,216	110,588	124,080	142,823
Guadalupe MPA							
307	Maricopa	1,157	1,121	1,239	1,338	1,304	1,370
Total		1,157	1,121	1,239	1,338	1,304	1,370
Litchfield Park MPA							
266	Maricopa	3,689	3,467	4,934	5,305	5,561	5,952
Total		3,689	3,467	4,934	5,305	5,561	5,952
Maricopa MPA							
399	Pinal	6,598	7,668	9,915	14,274	19,271	24,435
400	Pinal	309	313	412	870	1,490	2,757
403	Pinal	264	233	357	1,487	2,224	3,057
404	Pinal	224	220	389	1,110	1,760	2,425
Total		7,395	8,434	11,073	17,741	24,745	32,674

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Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Mesa MPA							
289	Maricopa	23,744	26,233	27,828	32,732	34,435	35,321
290	Maricopa	22,402	22,835	24,513	28,633	31,667	34,230
291	Maricopa	11,770	12,215	14,821	16,304	18,248	18,972
292	Maricopa	13,839	14,280	15,070	16,766	17,369	18,521
293	Maricopa	10,632	11,350	12,170	12,949	13,456	13,823
294	Maricopa	1,192	1,336	1,497	1,596	1,736	1,872
295	Maricopa	3,331	3,432	3,737	4,052	4,250	4,486
298	Maricopa	13,663	14,237	14,808	15,692	16,457	17,160
299	Maricopa	27,991	29,640	31,213	32,933	34,095	35,479
300	Maricopa	10,566	11,297	14,468	17,030	18,156	19,471
309	Maricopa	35,488	35,870	37,759	39,634	41,093	42,337
320	Maricopa	3,415	3,303	4,153	5,249	5,940	7,093
321	Maricopa	5,937	8,154	14,286	23,611	27,297	33,363
322	Maricopa	13,451	14,060	21,190	30,154	44,704	49,385
Total		197,421	208,242	237,513	277,335	308,903	331,513
Paradise Valley MPA							
262	Maricopa	4,703	4,673	5,138	5,485	5,545	5,774
Total		4,703	4,673	5,138	5,485	5,545	5,774
Peoria MPA							
202	Maricopa	1,475	1,368	2,282	4,697	5,601	6,132
213	Maricopa	3,257	2,722	5,036	8,293	11,305	12,499
214	Maricopa	8,120	8,356	10,135	16,211	19,493	24,856
215	Maricopa	13,118	13,758	14,427	15,445	15,767	16,358
238	Maricopa	21,323	22,590	24,543	25,779	26,822	28,744
239	Maricopa	13,042	13,864	14,934	16,531	17,150	17,872
344	Maricopa	63	81	336	2,224	2,055	3,171
Total		60,398	62,739	71,693	89,180	98,193	109,632

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

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Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Phoenix MPA							
203	Maricopa	425	509	740	926	825	959
205	Maricopa	3,013	3,062	4,266	10,047	20,759	30,600
206	Maricopa	8,529	9,195	9,979	10,749	11,316	12,058
216	Maricopa	0	4,352	29,781	38,149	42,174	43,408
217	Maricopa	4,940	5,498	8,464	12,782	14,746	17,545
218	Maricopa	3,636	3,626	3,958	4,326	4,460	4,582
219	Maricopa	2,462	2,671	3,812	4,913	5,621	5,234
223	Maricopa	13,146	13,582	15,268	16,029	16,845	17,277
224	Maricopa	24,567	22,455	23,720	24,716	25,487	26,093
225	Maricopa	46,058	48,786	53,491	58,044	61,086	64,007
226	Maricopa	20,235	22,298	25,423	26,558	27,408	28,200
227	Maricopa	15,331	16,031	18,241	20,894	23,210	24,952
228	Maricopa	24,042	26,148	34,715	40,064	43,628	46,396
241	Maricopa	10,900	11,218	12,339	13,555	14,342	15,092
242	Maricopa	8,573	8,567	9,236	9,785	10,196	10,591
243	Maricopa	35,776	35,441	38,236	42,474	44,605	46,055
244	Maricopa	14,735	14,623	15,349	16,246	17,002	17,260
245	Maricopa	15,992	16,994	18,310	19,305	19,925	20,696
246	Maricopa	32,489	35,221	40,325	44,425	46,222	47,638
259	Maricopa	18,515	19,578	21,576	24,402	25,691	27,166
260	Maricopa	20,960	21,081	22,918	24,947	26,207	26,943
261	Maricopa	30,926	32,814	34,387	36,115	37,191	38,784
267	Maricopa	18,647	20,016	23,120	26,212	27,451	28,061
268	Maricopa	17,251	18,530	20,012	21,677	22,580	23,319
269	Maricopa	29,052	30,144	31,793	33,406	34,082	34,768
270	Maricopa	87,187	90,657	96,401	100,859	103,562	105,480
271	Maricopa	45,469	47,288	51,111	55,503	57,958	60,487
275	Maricopa	73,210	80,774	91,979	102,896	106,691	109,213
276	Maricopa	21,854	21,936	23,384	24,838	25,945	26,991
283	Maricopa	14,676	17,851	19,509	21,693	22,776	23,748
284	Maricopa	28,778	35,165	35,773	37,947	39,351	40,239
285	Maricopa	14,943	15,046	15,672	16,108	16,229	16,380
286	Maricopa	14,346	14,702	15,213	16,778	17,637	18,521
287	Maricopa	58,488	63,378	66,692	69,123	70,019	71,145
296	Maricopa	44,790	45,745	48,564	51,496	56,345	59,807
304	Maricopa	9,819	9,986	12,394	15,182	17,122	19,706
305	Maricopa	5,988	6,351	6,836	7,452	7,705	8,076
306	Maricopa	16,696	16,255	17,318	18,598	21,476	23,408
313	Maricopa	7,866	8,514	9,615	10,372	10,723	11,210

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

RAZ	County	Total Employment					
		2020	2022	2030	2040	2050	2060
314	Maricopa	16,702	17,622	18,549	19,406	20,096	20,515
	Total	881,012	933,710	1,048,469	1,148,997	1,216,694	1,272,610
Queen Creek MPA							
339	Maricopa	18,769	18,775	20,882	22,905	24,993	25,560
422	Pinal	4	5	18	10	13	11
423	Pinal	280	326	476	517	590	704
424	Pinal	2,070	3,173	9,344	11,605	14,147	16,635
	Total	21,123	22,279	30,720	35,037	39,743	42,910
Salt River Pima-Maricopa Native Nation MPA							
264	Maricopa	18,082	21,926	31,221	34,773	36,622	38,555
	Total	18,082	21,926	31,221	34,773	36,622	38,555
Scottsdale MPA							
209	Maricopa	3,854	4,258	4,520	4,853	4,881	4,978
210	Maricopa	1,852	2,177	2,806	2,964	2,828	2,879
229	Maricopa	8,991	9,983	10,644	11,234	11,838	12,116
230	Maricopa	24,226	30,040	40,253	45,792	48,592	52,914
247	Maricopa	40,070	43,073	47,056	49,429	50,982	51,973
248	Maricopa	27,590	29,183	30,553	31,792	32,545	33,294
249	Maricopa	7,249	7,269	7,709	8,171	8,457	8,756
263	Maricopa	25,146	24,848	26,470	28,396	29,378	30,168
272	Maricopa	49,943	56,279	60,496	63,828	65,484	66,914
	Total	188,921	207,110	230,507	246,459	254,985	263,992
Surprise MPA							
211	Maricopa	86	83	3,047	5,069	7,289	9,639
212	Maricopa	5,016	4,850	9,277	12,507	13,932	14,250
232	Maricopa	8,500	9,681	10,122	10,801	11,246	11,931
233	Maricopa	21,007	24,586	33,833	42,029	47,367	53,762
234	Maricopa	2,812	3,221	3,515	3,543	3,696	3,810
371	Maricopa	27	34	30	288	2,148	2,760
504	Maricopa	1,113	1,027	14,349	18,383	23,077	33,888
	Total	38,561	43,482	74,173	92,620	108,755	130,040

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Tempe MPA							
288	Maricopa	91,378	99,650	117,718	131,204	138,933	144,771
297	Maricopa	42,845	44,530	46,933	50,104	51,618	53,003
308	Maricopa	58,139	63,676	69,098	72,109	73,858	75,193
	Total	192,362	207,856	233,749	253,417	264,409	272,967
Tolleson MPA							
274	Maricopa	17,597	18,974	20,565	21,544	22,046	22,440
	Total	17,597	18,974	20,565	21,544	22,046	22,440
Unincorporated Maricopa County MPA							
221	Maricopa	7,981	8,917	9,478	10,013	10,216	10,556
231	Maricopa	426	438	486	532	550	583
237	Maricopa	10,668	11,918	12,778	13,527	14,112	14,478
252	Maricopa	18	43	43	45	42	40
301	Maricopa	374	402	458	447	521	493
326	Maricopa	1,610	1,858	2,125	2,251	2,283	2,471
330	Maricopa	42	39	41	41	42	46
332	Maricopa	2	1	4	4	4	5
333	Maricopa	560	734	1,693	1,776	2,116	2,319
334	Maricopa	0	0	13	10	20	15
335	Maricopa	404	429	453	468	445	461
336	Maricopa	134	163	187	206	196	239
337	Maricopa	230	234	245	246	249	257
342	Maricopa	47	52	239	399	604	700
345	Maricopa	1,420	1,091	951	1,022	1,106	1,138
346	Maricopa	4,767	4,624	6,978	9,546	14,986	21,453
348	Maricopa	42	51	56	58	60	65
349	Maricopa	30	43	42	52	53	56
374	Maricopa	0	0	0	0	0	0
503	Maricopa	39	33	68	391	493	700
	Total	28,794	31,070	36,338	41,034	48,098	56,075

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2020, 2022 and Projections July 1, 2030 to July 1, 2060

		Total Employment					
RAZ	County	2020	2022	2030	2040	2050	2060
Unincorporated Pinal County MPA							
360	Pinal	17	2	1	1	8	5
361	Pinal	62	74	77	79	77	85
362	Pinal	0	0	0	0	1	0
407	Pinal	1,905	2,122	2,506	3,371	5,112	8,153
409	Pinal	709	850	1,060	1,441	1,683	2,282
411	Pinal	1,744	1,970	2,371	3,123	4,112	5,468
412	Pinal	9	6	7	11	11	16
429	Pinal	1	3	2	39	82	139
438	Pinal	5	5	6	7	17	20
508	Pinal	0	0	0	136	840	1,520
Total		4,452	5,032	6,030	8,208	11,943	17,688
Wickenburg MPA							
201	Maricopa	4,265	4,211	4,371	4,468	4,495	4,593
338	Maricopa	4	3	4	3	4	6
347	Maricopa	0	8	7	7	8	6
Total		4,269	4,222	4,382	4,478	4,507	4,605
Youngtown MPA							
236	Maricopa	1,591	1,574	1,708	2,245	2,291	2,469
Total		1,591	1,574	1,708	2,245	2,291	2,469

Notes: These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion. Unincorporated Pinal County only includes portions in the MAG planning area.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

Population and Employment Projections by County

2020 to 2060

Maricopa Association of Governments

**Table 6: Population and Employment Projections for Maricopa and Pinal Counties
July 1, 2020 and Projections July 1, 2025 to July 1, 2060**

Maricopa County			Pinal County		
Year	Population	Employment	Year	Population	Employment
2020	4,436,700	2,139,200	2020	428,200	66,600
2025	4,841,700	2,464,300	2025	502,900	89,200
2030	5,200,400	2,677,400	2030	587,800	109,200
2035	5,497,700	2,863,800	2035	680,100	126,200
2040	5,762,700	3,028,000	2040	778,900	145,100
2045	5,990,700	3,146,700	2045	883,000	165,600
2050	6,186,100	3,273,000	2050	994,200	189,700
2055	6,362,700	3,401,100	2055	1,110,900	216,200
2060	6,529,100	3,527,000	2060	1,230,500	245,500

Notes: Numbers rounded to the nearest 100.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2023

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

For data on jurisdictions outside of the MAG planning area, please contact Central Arizona Governments.

**A RESOLUTION OF THE MARICOPA ASSOCIATION OF GOVERNMENTS
APPROVING THE 2023 MAG SOCIOECONOMIC PROJECTIONS**

WHEREAS, the Maricopa Association of Governments (MAG) was formed in 1967 as a Council of Governments and provides regional planning assistance in transportation, air quality, water quality, solid waste, population projections, growth/open space, human services, 9-1-1 and public works; and

WHEREAS, an official set of projections is required to be used in transportation, air quality and water quality management plans as well as providing the base for all other regional planning activities; and

WHEREAS, the MAG Metropolitan Planning Organization (MPO) area encompasses area within both Maricopa County and Pinal County; and

WHEREAS, the MAG region had a population in 2020 of 4.8 million, which accounts for 67% of the state; and

WHEREAS, up-to-date projections are crucial for managing future growth; and

WHEREAS, the general plans of local jurisdictions go beyond their current corporate limits in order to plan for and guide future growth; and

WHEREAS, socioeconomic projections require that the future corporate limits and a consistent geography over time be established for each jurisdiction; and

WHEREAS, Municipal Planning Area boundaries are determined by MAG member agencies in consultation with MAG; and

WHEREAS, Municipal Planning Areas identify the anticipated future corporate limits of a city or town, have been used by MAG in preparing projections since 1983, and are used in the MAG 208 Water Quality Management Plan; and

WHEREAS, MAG worked jointly with Central Arizona Governments (CAG) to create the 2023 MAG Socioeconomic Projections for areas within Pinal County; and

WHEREAS, the county projections are consistent with the statewide projections created by the Arizona State Demographer's Office;

NOW THEREFORE, BE IT RESOLVED that the Regional Council for the Maricopa Association of Governments approves the Municipal Planning Areas and the 2023 MAG socioeconomic projections of population and employment for July 1, 2030, 2040, 2050, and 2060 by Municipal Planning Area and Regional Analysis Zone and by incorporated area annually for July 1, 2023, through 2060 for use in all regional planning activities.

PASSED AND ADOPTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS THIS TWENTY-EIGHTH DAY OF JUNE, 2023.



ATTEST:

A handwritten signature in black ink, reading "Kenneth Weise".

Mayor Kenneth Weise
Chair, MAG Regional Council

A handwritten signature in black ink, reading "Eric J. Anderson".

Eric J. Anderson
MAG Executive Director

Appendices

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Appendix B: Glossary of Terms _____ **37**

APPENDIX A

NOTES AND CAVEATS FOR 2023 PROJECTIONS

1. The projections by municipal planning area (MPA) and regional analysis zone (RAZ) were prepared to be consistent with the July 1, 2022, population estimates and have been prepared for July 1st of the base year 2020 and projected for July 1st of 2030, 2040, 2050, and 2060.
2. The population projections are for resident population only and do not include non-resident seasonal or transient population.
3. The projections are required to use the latest census as the base. The Census 2020 data were released in August 2022. Subsequent to the release, the Arizona State Demographer prepared a new set of Maricopa County projections consistent with the 2022 population estimate.
4. The MAG socioeconomic projections by MPA and RAZ were reviewed and recommended for approval by the MAG Population Technical Advisory Committee (POPTAC) on June 6, 2023, and by the MAG Management Committee on June 14, 2023. The projections unanimously adopted by MAG Regional Council on June 28, 2023.
5. The projections were based on the latest version of each member agency's general plan and known developments. These plans are subject to change.
6. The databases and assumptions upon which the projections are based have been reviewed by MAG member agencies and revised by MAG staff based on input received.
7. The projections are based upon previous review and local insight by members of the MAG POPTAC, member agency staff, and other local and regional stakeholders.
8. The projections should be used with caution. They are subject to change as a result of fluctuation in economic and development conditions, local development policies and updated data.

APPENDIX B

GLOSSARY OF TERMS

Base Population: Population base for the current estimate, usually the last Decennial Census or a special census or census survey taken since then.

Employment: The total number of jobs of persons receiving wage or salary to work in a given industry. This measure of employment only includes persons over the age of 16 and does not include working within the home without outside wage or volunteering. An employee works in the designated weekly time period at least one hour.

Municipal Planning Area (MPA): An MPA represents the area of planning concern for a municipality and is based upon its anticipated future corporate limits.

Projection: Numerical outcome of a set of assumptions (based on past trends) relating to future trends. The numbers are conditional upon these assumptions being fulfilled.

Regional Analysis Zone (RAZ): An area within an MPA. RAZs can be either coterminous with or may be aggregated to form an MPA.



Appendix H – Year 2028 Build Capacity Analysis

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	303	72	1663	550	118	2209
Future Volume (veh/h)	303	72	1663	550	118	2209
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	329	78	1808	598	128	2401
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	432	198	2362	733	419	2695
Arrive On Green	0.12	0.12	0.31	0.31	0.24	0.76
Sat Flow, veh/h	3456	1585	5274	1585	1781	3647
Grp Volume(v), veh/h	329	78	1808	598	128	2401
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1777
Q Serve(g_s), s	11.0	5.4	38.4	41.8	7.1	60.4
Cycle Q Clear(g_c), s	11.0	5.4	38.4	41.8	7.1	60.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	432	198	2362	733	419	2695
V/C Ratio(X)	0.76	0.39	0.77	0.82	0.31	0.89
Avail Cap(c_a), veh/h	922	423	2362	733	419	2695
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	48.3	35.5	36.7	37.8	10.8
Incr Delay (d2), s/veh	1.1	0.5	2.4	9.7	0.2	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.9	16.8	18.5	3.0	18.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.8	48.8	38.0	46.4	38.0	15.8
LnGrp LOS	D	D	D	D	D	B
Approach Vol, veh/h	407		2406			2529
Approach Delay, s/veh	51.2		40.1			16.9
Approach LOS	D		D			B
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	98.3		21.7		35.5	62.8
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	74.0		32.0		12.1	* 56
Max Q Clear Time (g_c+I1), s	62.4		13.0		9.1	43.8
Green Ext Time (p_c), s	3.6		0.7		0.0	4.6
Intersection Summary						
HCM 7th Control Delay, s/veh			29.9			
HCM 7th LOS			C			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

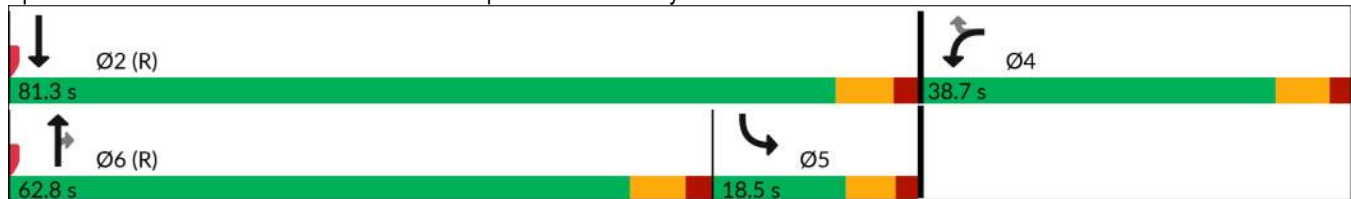


Phase Number	2	4	5	6
Movement	SBT	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	81.3	38.7	18.5	62.8
Maximum Split (%)	67.8%	32.3%	15.4%	52.3%
Minimum Split (s)	22.5	38.7	11.4	48.3
Yellow Time (s)	5.1	4.7	4.4	5.1
All-Red Time (s)	2.2	2	2	2.2
Minimum Initial (s)	10	15	5	10
Vehicle Extension (s)	0.2	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		8		4
Flash Dont Walk (s)		24		37
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	44	5.3	106.8	44
End Time (s)	5.3	44	5.3	106.8
Yield/Force Off (s)	118	37.3	118.9	99.5
Yield/Force Off 170(s)	118	13.3	118.9	62.5
Local Start Time (s)	0	81.3	62.8	0
Local Yield (s)	74	113.3	74.9	55.5
Local Yield 170(s)	74	89.3	74.9	18.5

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	140
Offset: 44 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



1: Scottsdale Road & Thompson Peak Parkway

12/08/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↰	↰	↰↰↰	↰	↰	↰↰
Traffic Volume (vph)	303	72	1663	550	118	2209
Future Volume (vph)	303	72	1663	550	118	2209
Satd. Flow (prot)	3433	1583	5085	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	5085	1583	1770	3539
Satd. Flow (RTOR)		78		598		
Lane Group Flow (vph)	329	78	1808	598	128	2401
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Total Split (s)	38.7	38.7	62.8	62.8	18.5	81.3
Total Lost Time (s)	6.7	6.7	7.3	7.3	6.4	7.3
Act Effect Green (s)	16.8	16.8	70.7	70.7	12.1	89.2
Actuated g/C Ratio	0.14	0.14	0.59	0.59	0.10	0.74
v/c Ratio	0.69	0.27	0.60	0.51	0.72	0.91
Control Delay (s/veh)	56.7	12.0	2.5	1.2	75.1	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.7	12.0	2.5	1.2	75.1	19.6
LOS	E	B	A	A	E	B
Approach Delay (s/veh)	48.1		2.2			22.4
Approach LOS	D		A			C
Queue Length 50th (ft)	127	0	20	0	98	650
Queue Length 95th (ft)	170	43	60	0	#190	#1007
Internal Link Dist (ft)	572		390			2341
Turn Bay Length (ft)	120			275	200	
Base Capacity (vph)	915	479	2996	1178	178	2630
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.16	0.60	0.51	0.72	0.91

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 15.3

Intersection LOS: B

Intersection Capacity Utilization 85.2%

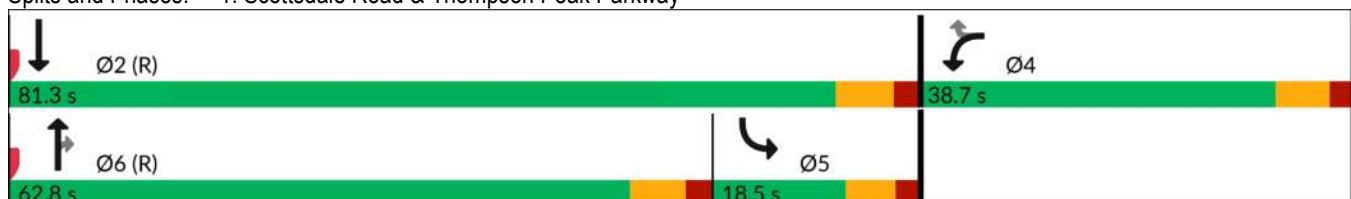
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



Lokahi, LLC

Queues

2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	10	2204	19	0	2511
Future Vol, veh/h	0	10	2204	19	0	2511
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	2396	21	0	2729
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1198	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*561	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*561	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v11.54			0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		- 561		-	
HCM Lane V/C Ratio	-		0.019		-	
HCM Control Delay (s/veh)	-		11.5		-	
HCM Lane LOS	-		B		-	
HCM 95th %tile Q(veh)	-		0.1		-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗	↘	↗↗↗
Traffic Vol, veh/h	0	54	2181	74	87	2427
Future Vol, veh/h	0	54	2181	74	87	2427
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	59	2371	80	95	2638
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1185	0	0	2451	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	*576	-	-	189	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		0	-	-	0	-
Mov Cap-1 Maneuver	-	*576	-	-	189	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.96		0		1.44		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	576	189	-	
HCM Lane V/C Ratio	-	-	0.102	0.5	-	
HCM Control Delay (s/veh)	-	-	12	41.7	-	
HCM Lane LOS	-	-	B	E	-	
HCM 95th %tile Q(veh)	-	-	0.3	2.5	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	103	2149	164	0	2435
Future Vol, veh/h	0	103	2149	164	0	2435
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	112	2336	178	0	2647
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1168	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*643	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*643	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v11.78			0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		- 643		-	
HCM Lane V/C Ratio	-		0.174		-	
HCM Control Delay (s/veh)	-		11.8		-	
HCM Lane LOS	-		B		-	
HCM 95th %tile Q(veh)	-		0.6		-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	276	63	2251	78	185	2250
Future Volume (veh/h)	276	63	2251	78	185	2250
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	68	2447	85	201	2446
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	361	166	2966	921	358	4024
Arrive On Green	0.10	0.10	0.58	0.58	0.15	0.79
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	300	68	2447	85	201	2446
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	10.2	4.8	46.3	2.9	6.6	23.4
Cycle Q Clear(g_c), s	10.2	4.8	46.3	2.9	6.6	23.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	361	166	2966	921	358	4024
V/C Ratio(X)	0.83	0.41	0.83	0.09	0.56	0.61
Avail Cap(c_a), veh/h	472	217	2966	921	358	4024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	50.3	20.2	11.1	43.1	5.2
Incr Delay (d2), s/veh	7.4	0.6	2.8	0.2	1.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.3	17.1	1.0	5.3	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.1	50.9	23.0	11.3	44.3	5.9
LnGrp LOS	E	D	C	B	D	A
Approach Vol, veh/h	368		2532			2647
Approach Delay, s/veh	58.4		22.6			8.8
Approach LOS	E		C			A
Timer - Assigned Phs						
	2		4		5	6
Phs Duration (G+Y+Rc), s	100.9		19.1		24.9	76.0
Change Period (Y+Rc), s	* 6.3		6.6		* 6.3	* 6.3
Max Green Setting (Gmax), s	* 91		16.4		* 15	* 70
Max Q Clear Time (g_c+I1), s	25.4		12.2		8.6	48.3
Green Ext Time (p_c), s	9.9		0.3		0.1	8.3
Intersection Summary						
HCM 7th Control Delay, s/veh			18.4			
HCM 7th LOS			B			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

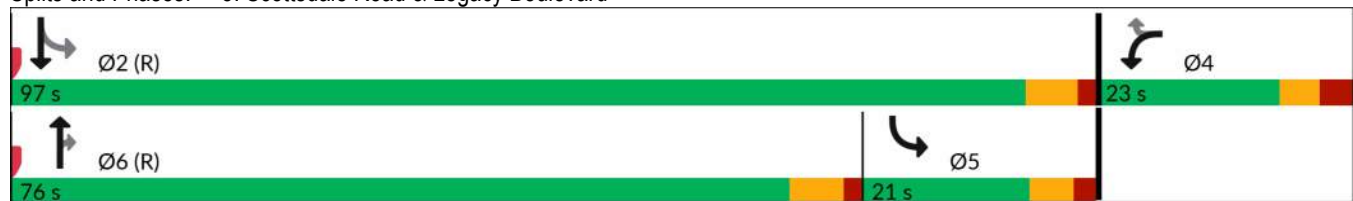


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	97	23	21	76
Maximum Split (%)	80.8%	19.2%	17.5%	63.3%
Minimum Split (s)	22.5	22.5	11	39.3
Yellow Time (s)	4.7	3.6	4	4.7
All-Red Time (s)	1.6	3	2	1.6
Minimum Initial (s)	10	7	5	5
Vehicle Extension (s)	1	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				7
Flash Dont Walk (s)				26
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	115	92	71	115
End Time (s)	92	115	92	71
Yield/Force Off (s)	85.7	108.4	86	64.7
Yield/Force Off 170(s)	85.7	108.4	86	38.7
Local Start Time (s)	0	97	76	0
Local Yield (s)	90.7	113.4	91	69.7
Local Yield 170(s)	90.7	113.4	91	43.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 115 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



5: Scottsdale Road & Legacy Boulevard

12/08/2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱	↰	↰↱↱	↰	↰	↰↱↱
Traffic Volume (vph)	276	63	2251	78	185	2250
Future Volume (vph)	276	63	2251	78	185	2250
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.051	
Satd. Flow (perm)	3433	1583	5085	1583	95	5085
Satd. Flow (RTOR)		68		45		
Lane Group Flow (vph)	300	68	2447	85	201	2446
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	76.0	76.0	21.0	97.0
Total Lost Time (s)	6.6	6.6	6.3	6.3	6.0	6.3
Act Effect Green (s)	14.3	14.3	71.8	71.8	93.1	92.8
Actuated g/C Ratio	0.12	0.12	0.60	0.60	0.78	0.77
v/c Ratio	0.74	0.27	0.80	0.09	0.71	0.62
Control Delay (s/veh)	64.3	15.9	21.6	5.9	48.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.3	15.9	21.6	5.9	48.2	9.9
LOS	E	B	C	A	D	A
Approach Delay (s/veh)	55.4		21.1			12.8
Approach LOS	E		C			B
Queue Length 50th (ft)	118	3	512	12	92	370
Queue Length 95th (ft)	162	m40	601	35	m118	516
Internal Link Dist (ft)	296		311			320
Turn Bay Length (ft)	240			140	190	
Base Capacity (vph)	469	275	3044	965	283	3934
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.25	0.80	0.09	0.71	0.62

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 115 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay (s/veh): 19.4

Intersection LOS: B

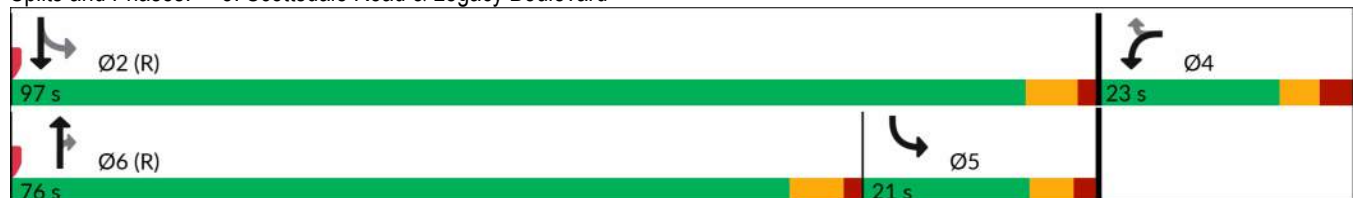
Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



Year 2028 AM Build Peak Hour - Baseline

Lokahi, LLC

Synchro 12 Report

Queues

6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			  
Traffic Volume (veh/h)	218	66	2414	183	178	2316
Future Volume (veh/h)	218	66	2414	183	178	2316
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	72	2624	199	193	2517
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	295	135	3718	1154	221	4250
Arrive On Green	0.09	0.09	0.73	0.73	0.07	0.83
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	237	72	2624	199	193	2517
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	8.8	5.7	37.4	5.1	6.7	21.2
Cycle Q Clear(g_c), s	8.8	5.7	37.4	5.1	6.7	21.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	295	135	3718	1154	221	4250
V/C Ratio(X)	0.80	0.53	0.71	0.17	0.87	0.59
Avail Cap(c_a), veh/h	468	215	3718	1154	337	4250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.67	0.67	1.00	1.00
Uniform Delay (d), s/veh	58.4	57.0	9.9	5.5	39.3	3.6
Incr Delay (d2), s/veh	2.2	1.2	0.8	0.2	14.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	5.0	11.5	1.5	7.0	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.6	58.2	10.7	5.7	53.9	4.2
LnGrp LOS	E	E	B	A	D	A
Approach Vol, veh/h	309		2823			2710
Approach Delay, s/veh	60.0		10.3			7.8
Approach LOS	E		B			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	113.9		16.1		13.5	100.3
Change Period (Y+Rc), s	5.7		5.0		4.5	5.7
Max Green Setting (Gmax), s	101.2		17.6		17.5	79.2
Max Q Clear Time (g_c+l1), s	23.2		10.8		8.7	39.4
Green Ext Time (p_c), s	25.3		0.3		0.3	22.6
Intersection Summary						
HCM 7th Control Delay, s/veh			11.8			
HCM 7th LOS			B			

6: Scottsdale Road & Henkel Way

12/08/2023

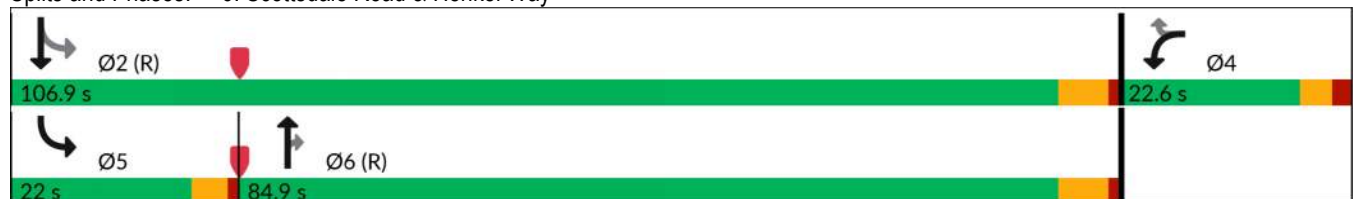


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lead	Lag
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	106.9	22.6	22	84.9
Maximum Split (%)	82.5%	17.5%	17.0%	65.6%
Minimum Split (s)	22.5	22.5	9.5	31.7
Yellow Time (s)	4.7	3	3.5	4.7
All-Red Time (s)	1	2	1	1
Minimum Initial (s)	10	7	5	10
Vehicle Extension (s)	2	2	3	2
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				4
Flash Dont Walk (s)				22
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	118.5	95.9	118.5	11
End Time (s)	95.9	118.5	11	95.9
Yield/Force Off (s)	90.2	113.5	6.5	90.2
Yield/Force Off 170(s)	90.2	113.5	6.5	68.2
Local Start Time (s)	107.5	84.9	107.5	0
Local Yield (s)	79.2	102.5	125	79.2
Local Yield 170(s)	79.2	102.5	125	57.2

Intersection Summary

Cycle Length	129.5
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 11 (8%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 6: Scottsdale Road & Henkel Way



6: Scottsdale Road & Henkel Way

12/08/2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱	↰	↰↱↲	↰	↰	↰↱↲
Traffic Volume (vph)	218	66	2414	183	178	2316
Future Volume (vph)	218	66	2414	183	178	2316
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.044	
Satd. Flow (perm)	3433	1583	5085	1583	82	5085
Satd. Flow (RTOR)		72		104		
Lane Group Flow (vph)	237	72	2624	199	193	2517
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	22.6	22.6	84.9	84.9	22.0	106.9
Total Lost Time (s)	5.0	5.0	5.7	5.7	4.5	5.7
Act Effect Green (s)	13.3	13.3	87.3	87.3	106.7	105.5
Actuated g/C Ratio	0.10	0.10	0.67	0.67	0.82	0.81
v/c Ratio	0.67	0.32	0.77	0.18	0.78	0.61
Control Delay (s/veh)	65.5	15.0	17.3	4.9	54.7	5.4
Queue Delay	0.0	0.0	1.8	0.0	0.0	0.0
Total Delay (s/veh)	65.5	15.0	19.1	4.9	54.7	5.4
LOS	E	B	B	A	D	A
Approach Delay (s/veh)	53.7		18.1			8.9
Approach LOS	D		B			A
Queue Length 50th (ft)	100	0	510	26	105	228
Queue Length 95th (ft)	141	45	681	64	188	309
Internal Link Dist (ft)	358		611			258
Turn Bay Length (ft)	150			150	198	
Base Capacity (vph)	466	277	3427	1100	296	4143
Starvation Cap Reductn	0	0	603	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.26	0.93	0.18	0.65	0.61

Intersection Summary

Cycle Length: 129.5

Actuated Cycle Length: 129.5

Offset: 11 (8%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay (s/veh): 15.7

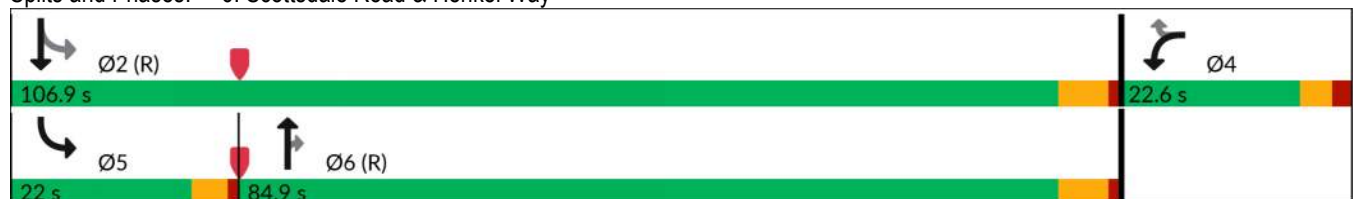
Intersection LOS: B

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Scottsdale Road & Henkel Way



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	457	26	649	409	1948	0	0	1906	629
Future Volume (vph)	0	0	0	457	26	649	409	1948	0	0	1906	629
Satd. Flow (prot)	0	0	0	3433	1524	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1524	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					3	190						652
Lane Group Flow (vph)	0	0	0	497	366	367	445	2117	0	0	2072	684
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					3		4 6	1 2 4			5	
Permitted Phases				3		3						5
Total Split (s)				54.7	54.7	54.7					27.7	27.7
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effect Green (s)				37.2	37.2	37.2	45.4	73.4			22.0	22.0
Actuated g/C Ratio				0.30	0.30	0.30	0.37	0.60			0.18	0.18
v/c Ratio				0.48	0.79	0.63	0.35	0.70			1.54	0.84
Control Delay (s/veh)				35.5	50.9	20.7	30.4	5.9			280.0	15.0
Queue Delay				0.0	0.0	0.0	0.0	3.2			0.1	0.0
Total Delay (s/veh)				35.5	50.9	20.7	30.4	9.1			280.1	15.0
LOS				D	D	C	C	A			F	B
Approach Delay (s/veh)					35.7			12.8			214.3	
Approach LOS					D			B			F	
Queue Length 50th (ft)				165	277	125	108	152			~570	22
Queue Length 95th (ft)				189	352	205	m131	m264			#634	#194
Internal Link Dist (ft)		996			1228			340			611	
Turn Bay Length (ft)				320		320						400
Base Capacity (vph)				1339	596	702	1266	3033			1349	818
Starvation Cap Reductn				0	0	0	0	793			0	0
Spillback Cap Reductn				2	0	0	0	0			38	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.37	0.61	0.52	0.35	0.95			1.58	0.84

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.54

Intersection Signal Delay (s/veh): 101.9

Intersection LOS: F

Intersection Capacity Utilization 137.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

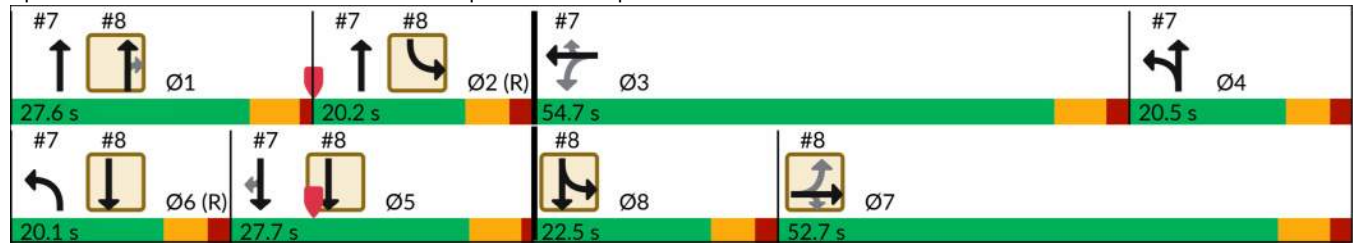
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	27.6	20.2	20.5	20.1	52.7	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

								
Phase Number	1	2	3	4	5	6	7	8
Node Number	7	7	7	7	7	7	8	8
Movement	NBT	NBT	WBTL	NBTL	SBT	NBL	EBTL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Min	None	None	Max	C-Min	None	None
Maximum Split (s)	27.6	20.2	54.7	20.5	27.7	20.1	52.7	22.5
Maximum Split (%)	22.4%	16.4%	44.5%	16.7%	22.5%	16.3%	42.8%	18.3%
Minimum Split (s)	27.7	22.5	56.7	22.5	29.7	22.5	54.7	22.5
Yellow Time (s)	4.7	4	4.7	4	4.7	4	4.7	4
All-Red Time (s)	1	2	2	2	1	2	2	2
Minimum Initial (s)	10	5	7	2	10	5	7	2
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	2	1	2	1	2	1	2	1
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)	4		4		4		4	
Flash Dont Walk (s)	18		46		20		44	
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	57.4	85	105.2	36.9	77.5	57.4	4.7	105.2
End Time (s)	85	105.2	36.9	57.4	105.2	77.5	57.4	4.7
Yield/Force Off (s)	79.3	99.2	30.2	51.4	99.5	71.5	50.7	121.7
Yield/Force Off 170(s)	61.3	99.2	107.2	51.4	79.5	71.5	6.7	121.7
Local Start Time (s)	95.4	0	20.2	74.9	115.5	95.4	42.7	20.2
Local Yield (s)	117.3	14.2	68.2	89.4	14.5	109.5	88.7	36.7
Local Yield 170(s)	99.3	14.2	22.2	89.4	117.5	109.5	44.7	36.7

Intersection Summary

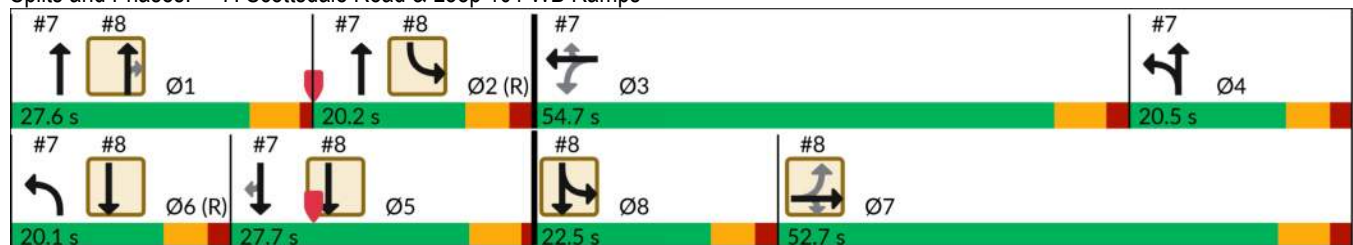
Cycle Length 123

Control Type Actuated-Coordinated

Natural Cycle 145

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1065	3	990	0	0	0	0	1292	338	755	1608	0
Future Volume (vph)	1065	3	990	0	0	0	0	1292	338	755	1608	0
Satd. Flow (prot)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		11	184						367			
Lane Group Flow (vph)	1158	541	538	0	0	0	0	1404	367	821	1748	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7						1		2 8	5 6 8	
Permitted Phases	7		7						1			
Total Split (s)	52.7	52.7	52.7					27.6	27.6			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effct Green (s)	46.0	46.0	46.0					21.9	21.9	36.7	64.6	
Actuated g/C Ratio	0.37	0.37	0.37					0.18	0.18	0.30	0.53	
v/c Ratio	0.90	0.95	0.79					1.05	0.63	0.80	0.65	
Control Delay (s/veh)	47.3	64.3	32.1					86.1	9.7	11.2	12.4	
Queue Delay	0.0	0.0	0.0					0.0	0.0	11.7	0.6	
Total Delay (s/veh)	47.3	64.3	32.1					86.1	9.7	22.9	13.1	
LOS	D	E	C					F	A	C	B	
Approach Delay (s/veh)		47.8						70.2			16.2	
Approach LOS		D						E			B	
Queue Length 50th (ft)	444	428	273					~299	0	30	163	
Queue Length 95th (ft)	#573	#671	440					#363	88	m29	m43	
Internal Link Dist (ft)		1060			1321			938			340	
Turn Bay Length (ft)	200		200						350			
Base Capacity (vph)	1283	570	677					1343	583	1024	2670	
Starvation Cap Reductn	0	0	0					0	0	190	497	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.90	0.95	0.79					1.05	0.63	0.98	0.80	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.54

Intersection Signal Delay (s/veh): 41.5

Intersection LOS: D

Intersection Capacity Utilization 137.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

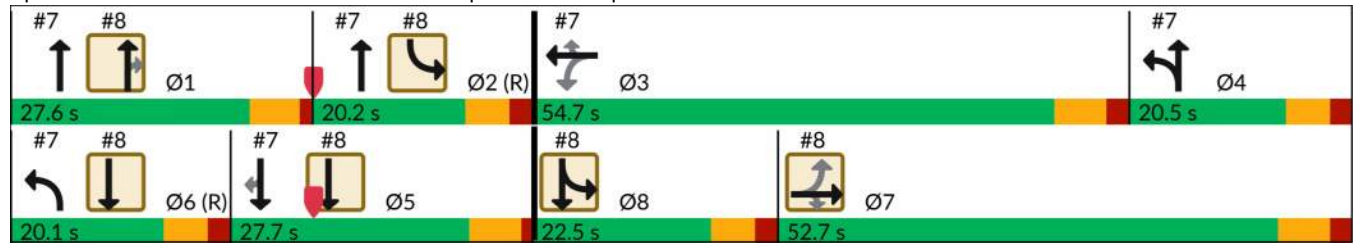
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	20.2	54.7	20.5	27.7	20.1	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	172	435	71	0	302	51	0	0	86	0	0	88
Future Vol, veh/h	172	435	71	0	302	51	0	0	86	0	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	187	473	77	0	328	55	0	0	93	0	0	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	384	0	0	-	-	0	-	-	236	-	-	164
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1171	-	-	0	-	-	0	0	765	0	0	852
Stage 1	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1171	-	-	-	-	-	-	-	765	-	-	852
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.2	0	10.36	9.76
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	765	1171	-	-	-	-	852
HCM Lane V/C Ratio	0.122	0.16	-	-	-	-	0.112
HCM Control Delay (s/veh)	10.4	8.7	-	-	-	-	9.8
HCM Lane LOS	B	A	-	-	-	-	A
HCM 95th %tile Q(veh)	0.4	0.6	-	-	-	-	0.4

Intersection

Int Delay, s/veh 10.3

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	49	31	104	50	83	57	77	102	32	42	98	83	48
Future Vol, veh/h	49	31	104	50	83	57	77	102	32	42	98	83	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	110	-	160	200	-	-	100	-	100	150	-	150
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	34	113	54	90	62	84	111	35	46	107	90	52

Major/Minor	Major1				Major2				Minor1		Minor2			
Conflicting Flow All	146	146	0	0	167	0	0	543	613	57	532	626	73	
Stage 1	-	-	-	-	-	-	-	287	287	-	284	284	-	
Stage 2	-	-	-	-	-	-	-	257	326	-	248	341	-	
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	1158	1434	-	-	1408	-	-	422	406	998	430	399	974	
Stage 1	-	-	-	-	-	-	-	696	673	-	699	675	-	
Stage 2	-	-	-	-	-	-	-	726	647	-	734	637	-	
Platoon blocked, %			-	-		-	-							
Mov Cap-1 Maneuver	1206	1206	-	-	1408	-	-	278	367	998	339	361	974	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	278	367	-	339	361	-	
Stage 1	-	-	-	-	-	-	-	672	650	-	654	632	-	
Stage 2	-	-	-	-	-	-	-	551	605	-	640	615	-	

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 2.81		2.96	20.23	17.22
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	278	367	998	1206	-	-	1408	-	-	339	361	974
HCM Lane V/C Ratio	0.399	0.095	0.046	0.072	-	-	0.064	-	-	0.314	0.25	0.054
HCM Control Delay (s/veh)	26.3	15.8	8.8	8.2	-	-	7.7	-	-	20.4	18.3	8.9
HCM Lane LOS	D	C	A	A	-	-	A	-	-	C	C	A
HCM 95th %tile Q(veh)	1.8	0.3	0.1	0.2	-	-	0.2	-	-	1.3	1	0.2

11: Driveway D & Legacy Boulevard

12/08/2023

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Vol, veh/h	130	116	83	160	58	42
Future Vol, veh/h	130	116	83	160	58	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	126	90	174	63	46
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	267	0	409	71
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1293	-	571	977
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1293	-	531	977
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	701	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		2.73		11.08	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	531	977	-	-	1293	-
HCM Lane V/C Ratio	0.119	0.047	-	-	0.07	-
HCM Control Delay (s/veh)	12.7	8.9	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.2	-

Intersection

Int Delay, s/veh 1.6

Movement EBL EBT WBT WBR SBL SBRLane Configurations 

Traffic Vol, veh/h 0 0 146 59 0 44

Future Vol, veh/h 0 0 146 59 0 44

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - 250 - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 0 0 159 64 0 48

Major/Minor Major2 Minor2

Conflicting Flow All - 0 - 159

Stage 1 - - - -

Stage 2 - - - -

Critical Hdwy - - - 6.22

Critical Hdwy Stg 1 - - - -

Critical Hdwy Stg 2 - - - -

Follow-up Hdwy - - - 3.318

Pot Cap-1 Maneuver - - 0 887

Stage 1 - - 0 -

Stage 2 - - 0 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver - - - 887

Mov Cap-2 Maneuver - - - -

Stage 1 - - - -

Stage 2 - - - -

Approach WB SB

HCM Control Delay, s/v 0 9.29

HCM LOS A

Minor Lane/Major Mvmt WBT WBR SBLn1

Capacity (veh/h) - - 887

HCM Lane V/C Ratio - - 0.054

HCM Control Delay (s/veh) - - 9.3

HCM Lane LOS - - A

HCM 95th %tile Q(veh) - - 0.2

13: Scottsdale Road & Driveway F

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	32	2297	78	0	2527
Future Vol, veh/h	0	32	2297	78	0	2527
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	2497	85	0	2747
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1248	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*560	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-		-
Mov Cap-1 Maneuver	-	*560	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.85		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	560		-		
HCM Lane V/C Ratio	-	0.062		-		
HCM Control Delay (s/veh)	-	11.9		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.2		-		
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

14: Scottsdale Road & Driveway G

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	25	2349	78	0	2527
Future Vol, veh/h	0	25	2349	78	0	2527
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	2553	85	0	2747
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1277	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*546	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-		-
Mov Cap-1 Maneuver	-	*546	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.93		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 546		-		
HCM Lane V/C Ratio	-	- 0.05		-		
HCM Control Delay (s/veh)	-	- 11.9		-		
HCM Lane LOS	-	- B		-		
HCM 95th %tile Q(veh)	-	- 0.2		-		
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

15: Scottsdale Road & Driveway H

12/08/2023

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	25	2402	78	33	2494
Future Vol, veh/h	0	25	2402	78	33	2494
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	2611	85	36	2711

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	1348	0 0 2696 0
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	7.14	- - 5.34 -
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	3.92	- - 3.12 -
Pot Cap-1 Maneuver	0	*631	- - 100 -
Stage 1	0	-	- - -
Stage 2	0	-	- - -
Platoon blocked, %		0	- - 0 -
Mov Cap-1 Maneuver	-	*631	- - 100 -
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	WB	NB	SB
HCM Control Delay, s/v10.96		0	0.79
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 631	100	-
HCM Lane V/C Ratio	-	- 0.043	0.36	-
HCM Control Delay (s/veh)	-	- 11	60.3	-
HCM Lane LOS	-	- B	F	-
HCM 95th %tile Q(veh)	-	- 0.1	1.4	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

16: Driveway E & Legacy Boulevard

12/08/2023

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑			↑			↑
Traffic Vol, veh/h	0	247	17	0	294	52	0	0	11	0	0	39
Future Vol, veh/h	0	247	17	0	294	52	0	0	11	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	268	18	0	320	57	0	0	12	0	0	42
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	134	-	-	160
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	890	0	0	857
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	890	-	-	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			9.1			9.42		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1						
Capacity (veh/h)	890	-	-	-	-	857						
HCM Lane V/C Ratio	0.013	-	-	-	-	0.049						
HCM Control Delay (s/veh)	9.1	-	-	-	-	9.4						
HCM Lane LOS	A	-	-	-	-	A						
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2						

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	241	33	0	218	0	16
Future Vol, veh/h	241	33	0	218	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	36	0	237	0	17

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 131
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 894
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 894
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	9.11
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	894	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-
HCM Control Delay (s/veh)	9.1	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

1: Scottsdale Road & Thompson Peak Parkway

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	553	87	2038	350	53	1368
Future Volume (veh/h)	553	87	2038	350	53	1368
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	601	95	2215	380	58	1487
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	673	309	2553	793	227	2447
Arrive On Green	0.19	0.19	1.00	1.00	0.13	0.69
Sat Flow, veh/h	3456	1585	5274	1585	1781	3647
Grp Volume(v), veh/h	601	95	2215	380	58	1487
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1777
Q Serve(g_s), s	20.3	6.2	0.0	0.0	3.5	26.9
Cycle Q Clear(g_c), s	20.3	6.2	0.0	0.0	3.5	26.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	673	309	2553	793	227	2447
V/C Ratio(X)	0.89	0.31	0.87	0.48	0.26	0.61
Avail Cap(c_a), veh/h	922	423	2553	793	227	2447
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	41.4	0.0	0.0	47.2	10.0
Incr Delay (d2), s/veh	7.0	0.2	4.3	2.1	0.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	5.7	1.0	0.5	1.5	9.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.1	41.6	4.3	2.1	47.4	11.1
LnGrp LOS	D	D	A	A	D	B
Approach Vol, veh/h	696		2595			1545
Approach Delay, s/veh	52.4		4.0			12.5
Approach LOS	D		A			B
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	89.9		30.1		22.6	67.3
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	74.0		32.0		7.6	* 60
Max Q Clear Time (g_c+I1), s	28.9		22.3		5.5	2.0
Green Ext Time (p_c), s	1.9		1.0		0.0	8.3
Intersection Summary						
HCM 7th Control Delay, s/veh			13.7			
HCM 7th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

1: Scottsdale Road & Thompson Peak Parkway

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱	↰	↰↱↲	↰	↰	↰↱
Traffic Volume (vph)	553	87	2038	350	53	1368
Future Volume (vph)	553	87	2038	350	53	1368
Satd. Flow (prot)	3433	1583	5085	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	5085	1583	1770	3539
Satd. Flow (RTOR)		95		337		
Lane Group Flow (vph)	601	95	2215	380	58	1487
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Total Split (s)	38.7	38.7	67.3	67.3	14.0	81.3
Total Lost Time (s)	6.7	6.7	7.3	7.3	6.4	7.3
Act Effect Green (s)	25.4	25.4	69.4	69.4	7.1	80.6
Actuated g/C Ratio	0.21	0.21	0.58	0.58	0.06	0.67
v/c Ratio	0.83	0.23	0.75	0.36	0.56	0.63
Control Delay (s/veh)	55.4	8.4	17.8	2.6	74.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.4	8.4	17.8	2.6	74.9	13.2
LOS	E	A	B	A	E	B
Approach Delay (s/veh)	49.0		15.6			15.5
Approach LOS	D		B			B
Queue Length 50th (ft)	231	0	284	14	44	313
Queue Length 95th (ft)	279	42	244	41	#92	442
Internal Link Dist (ft)	572		390			2341
Turn Bay Length (ft)	120			275	200	
Base Capacity (vph)	915	491	2942	1058	112	2378
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.19	0.75	0.36	0.52	0.63

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 88 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay (s/veh): 20.4

Intersection LOS: C

Intersection Capacity Utilization 71.5%

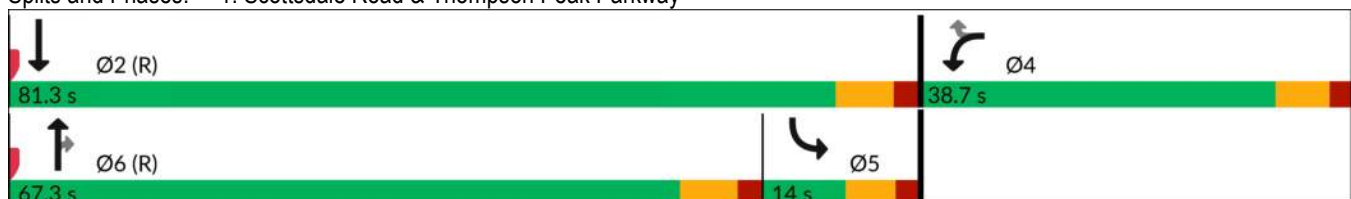
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



Lokahi, LLC

Queues

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

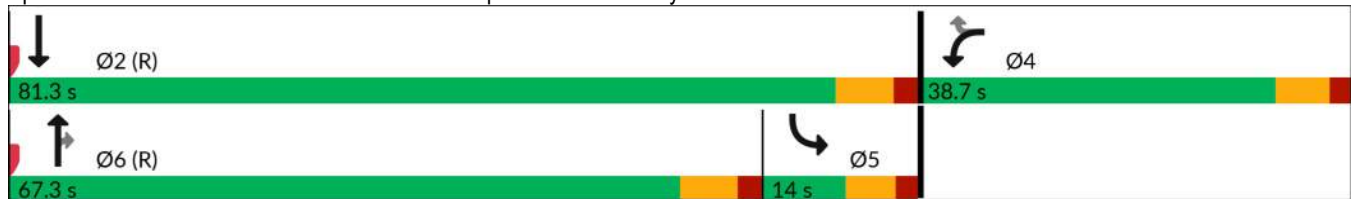


Phase Number	2	4	5	6
Movement	SBT	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	81.3	38.7	14	67.3
Maximum Split (%)	67.8%	32.3%	11.7%	56.1%
Minimum Split (s)	22.5	38.7	11.4	48.3
Yellow Time (s)	5.1	4.7	4.4	5.1
All-Red Time (s)	2.2	2	2	2.2
Minimum Initial (s)	10	15	5	10
Vehicle Extension (s)	0.2	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		8		4
Flash Dont Walk (s)		24		37
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	88	49.3	35.3	88
End Time (s)	49.3	88	49.3	35.3
Yield/Force Off (s)	42	81.3	42.9	28
Yield/Force Off 170(s)	42	57.3	42.9	111
Local Start Time (s)	0	81.3	67.3	0
Local Yield (s)	74	113.3	74.9	60
Local Yield 170(s)	74	89.3	74.9	23

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	100
Offset: 88 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	4	2383	4	0	1915
Future Vol, veh/h	0	4	2383	4	0	1915
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	2590	4	0	2082
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1295	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*546	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*546	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v11.64			0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		-		546	
HCM Lane V/C Ratio	-		-		0.008	
HCM Control Delay (s/veh)	-		-		11.6	
HCM Lane LOS	-		-		B	
HCM 95th %tile Q(veh)	-		-		0	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗	↘	↗↗↗
Traffic Vol, veh/h	0	19	2369	23	5	1913
Future Vol, veh/h	0	19	2369	23	5	1913
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	2575	25	5	2079
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1288	0	0	2600	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	*546	-	-	165	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		0	-	-	0	-
Mov Cap-1 Maneuver	-	*546	-	-	165	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v11.85			0		0.07	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBL	SBT
Capacity (veh/h)	-		-		546	165
HCM Lane V/C Ratio	-		-		0.038	0.033
HCM Control Delay (s/veh)	-		-		11.8	27.5
HCM Lane LOS	-		-		B	D
HCM 95th %tile Q(veh)	-		-		0.1	0.1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑	↑		↑↑↑
Traffic Vol, veh/h	0	0	2391	4	0	1916
Future Vol, veh/h	0	0	2391	4	0	1916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2599	4	0	2083
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	1299	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*607	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*607	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	39	2358	101	4	1912
Future Volume (veh/h)	70	39	2358	101	4	1912
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	42	2563	110	4	2078
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	198	91	3391	1053	305	4265
Arrive On Green	0.06	0.06	0.66	0.66	0.24	1.00
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	76	42	2563	110	4	2078
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	2.5	3.1	40.6	3.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	3.1	40.6	3.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	198	91	3391	1053	305	4265
V/C Ratio(X)	0.38	0.46	0.76	0.10	0.01	0.49
Avail Cap(c_a), veh/h	472	217	3391	1053	305	4265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	54.8	13.6	7.3	17.6	0.0
Incr Delay (d2), s/veh	0.5	1.4	1.6	0.2	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.8	13.6	1.0	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.0	56.2	15.2	7.5	17.6	0.4
LnGrp LOS	D	E	B	A	B	A
Approach Vol, veh/h	118		2673			2082
Approach Delay, s/veh	55.4		14.9			0.4
Approach LOS	E		B			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.5		13.5	20.5	86.0
Change Period (Y+Rc), s		* 6.3		6.6	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 91		16.4	* 5	* 80
Max Q Clear Time (g_c+I1), s		2.0		5.1	2.0	42.6
Green Ext Time (p_c), s		7.1		0.1	0.0	10.5
Intersection Summary						
HCM 7th Control Delay, s/veh			9.7			
HCM 7th LOS			A			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

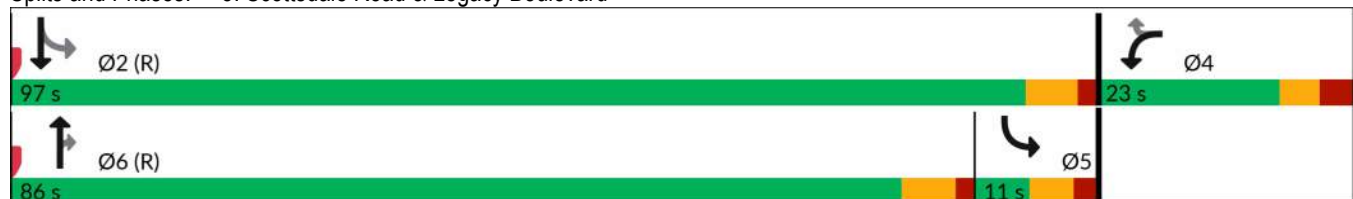


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	97	23	11	86
Maximum Split (%)	80.8%	19.2%	9.2%	71.7%
Minimum Split (s)	22.5	22.5	11	39.3
Yellow Time (s)	4.7	3.6	4	4.7
All-Red Time (s)	1.6	3	2	1.6
Minimum Initial (s)	10	7	5	5
Vehicle Extension (s)	1	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				7
Flash Dont Walk (s)				26
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	75	52	41	75
End Time (s)	52	75	52	41
Yield/Force Off (s)	45.7	68.4	46	34.7
Yield/Force Off 170(s)	45.7	68.4	46	8.7
Local Start Time (s)	0	97	86	0
Local Yield (s)	90.7	113.4	91	79.7
Local Yield 170(s)	90.7	113.4	91	53.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



5: Scottsdale Road & Legacy Boulevard

12/08/2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↖↖	↖	↖	↖↖↖
Traffic Volume (vph)	70	39	2358	101	4	1912
Future Volume (vph)	70	39	2358	101	4	1912
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.040	
Satd. Flow (perm)	3433	1583	5085	1583	75	5085
Satd. Flow (RTOR)		42		69		
Lane Group Flow (vph)	76	42	2563	110	4	2078
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	86.0	86.0	11.0	97.0
Total Lost Time (s)	6.6	6.6	6.3	6.3	6.0	6.3
Act Effect Green (s)	7.6	7.6	101.2	101.2	102.5	103.4
Actuated g/C Ratio	0.06	0.06	0.84	0.84	0.85	0.86
v/c Ratio	0.35	0.30	0.60	0.08	0.03	0.47
Control Delay (s/veh)	58.1	21.5	5.1	1.6	2.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.1	21.5	5.1	1.6	2.0	1.8
LOS	E	C	A	A	A	A
Approach Delay (s/veh)	45.1		5.0			1.8
Approach LOS	D		A			A
Queue Length 50th (ft)	29	0	184	4	0	74
Queue Length 95th (ft)	54	36	402	23	m1	95
Internal Link Dist (ft)	296		311			320
Turn Bay Length (ft)	240			140	190	
Base Capacity (vph)	469	252	4290	1346	134	4383
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.60	0.08	0.03	0.47

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 4.6

Intersection LOS: A

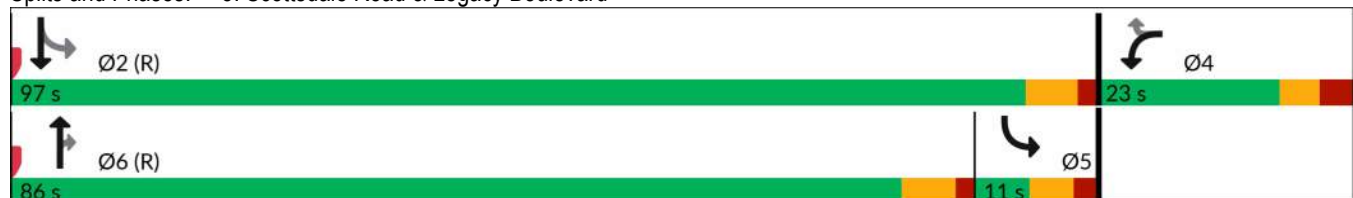
Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



Year 2028 PM No Build Peak Hour - Baseline

Lokahi, LLC

Synchro 12 Report

Queues

6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	27	8	2451	8	12	1982
Future Volume (veh/h)	27	8	2451	8	12	1982
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	9	2664	9	13	2154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	139	64	4230	1313	152	4481
Arrive On Green	0.04	0.04	0.83	0.83	0.01	0.88
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	29	9	2664	9	13	2154
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	1.1	0.7	24.3	0.1	0.1	11.6
Cycle Q Clear(g_c), s	1.1	0.7	24.3	0.1	0.1	11.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	139	64	4230	1313	152	4481
V/C Ratio(X)	0.21	0.14	0.63	0.01	0.09	0.48
Avail Cap(c_a), veh/h	478	219	4230	1313	202	4481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	60.4	60.2	4.0	1.9	4.3	1.7
Incr Delay (d2), s/veh	0.3	0.4	0.5	0.0	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	5.1	0.0	0.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.7	60.6	4.5	1.9	4.6	2.1
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	38		2673			2167
Approach Delay, s/veh	60.6		4.5			2.1
Approach LOS	E		A			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	119.8		10.2		6.4	113.4
Change Period (Y+Rc), s	5.7		5.0		4.5	5.7
Max Green Setting (Gmax), s	100.8		18.0		5.5	90.8
Max Q Clear Time (g_c+I1), s	13.6		3.1		2.1	26.3
Green Ext Time (p_c), s	17.5		0.0		0.0	27.8
Intersection Summary						
HCM 7th Control Delay, s/veh			3.9			
HCM 7th LOS			A			

6: Scottsdale Road & Henkel Way

12/08/2023

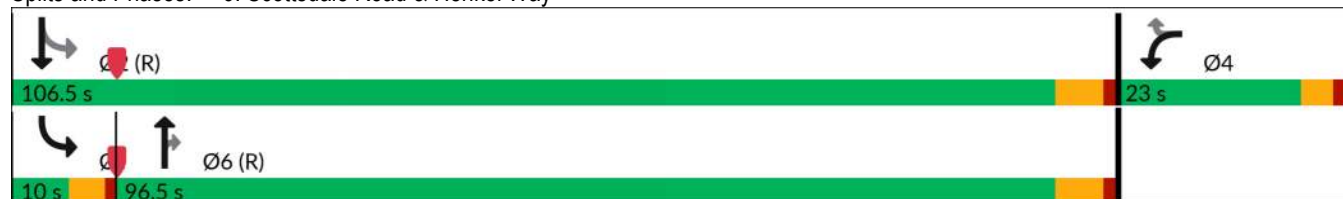


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lead	Lag
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	106.5	23	10	96.5
Maximum Split (%)	82.2%	17.8%	7.7%	74.5%
Minimum Split (s)	22.5	22.5	9.5	31.7
Yellow Time (s)	4.7	3	3.5	4.7
All-Red Time (s)	1	2	1	1
Minimum Initial (s)	10	7	5	10
Vehicle Extension (s)	2	2	3	2
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				4
Flash Dont Walk (s)				22
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	18	124.5	18	28
End Time (s)	124.5	18	28	124.5
Yield/Force Off (s)	118.8	13	23.5	118.8
Yield/Force Off 170(s)	118.8	13	23.5	96.8
Local Start Time (s)	119.5	96.5	119.5	0
Local Yield (s)	90.8	114.5	125	90.8
Local Yield 170(s)	90.8	114.5	125	68.8

Intersection Summary

Cycle Length	129.5
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 6: Scottsdale Road & Henkel Way



6: Scottsdale Road & Henkel Way

12/08/2023

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑	↘	↙	↑↑↑
Traffic Volume (vph)	27	8	2451	8	12	1982
Future Volume (vph)	27	8	2451	8	12	1982
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.036	
Satd. Flow (perm)	3433	1583	5085	1583	67	5085
Satd. Flow (RTOR)		9		6		
Lane Group Flow (vph)	29	9	2664	9	13	2154
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	96.5	96.5	10.0	106.5
Total Lost Time (s)	5.0	5.0	5.7	5.7	4.5	5.7
Act Effect Green (s)	7.0	7.0	114.8	114.8	117.8	118.9
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.91	0.92
v/c Ratio	0.16	0.10	0.59	0.01	0.10	0.46
Control Delay (s/veh)	60.5	31.3	4.2	1.9	2.4	1.8
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay (s/veh)	60.5	31.3	4.5	1.9	2.4	1.8
LOS	E	C	A	A	A	A
Approach Delay (s/veh)	53.6		4.5			1.8
Approach LOS	D		A			A
Queue Length 50th (ft)	12	0	167	0	1	111
Queue Length 95th (ft)	28	19	349	4	3	125
Internal Link Dist (ft)	358		611			258
Turn Bay Length (ft)	150			150	198	
Base Capacity (vph)	477	227	4507	1404	135	4667
Starvation Cap Reductn	0	0	1027	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.77	0.01	0.10	0.46

Intersection Summary

Cycle Length: 129.5

Actuated Cycle Length: 129.5

Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 3.7

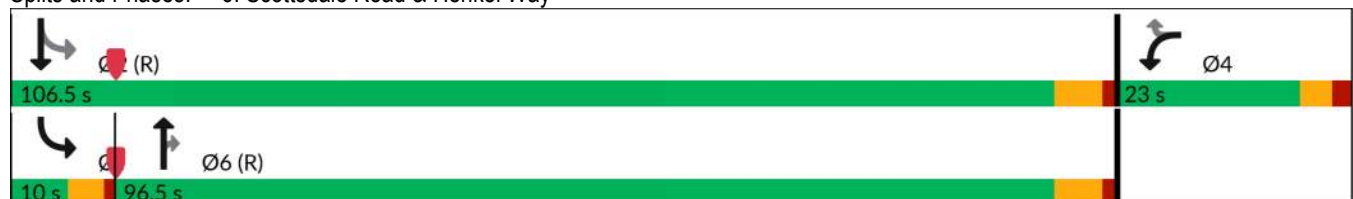
Intersection LOS: A

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Scottsdale Road & Henkel Way



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	669	51	770	716	1690	0	0	1454	555
Future Volume (vph)	0	0	0	669	51	770	716	1690	0	0	1454	555
Satd. Flow (prot)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					7	139						558
Lane Group Flow (vph)	0	0	0	727	448	444	778	1837	0	0	1580	603
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					3		4 6	1 2 4			5	
Permitted Phases				3		3						5
Total Split (s)				54.7	54.7	54.7					27.7	27.7
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effect Green (s)				42.7	42.7	42.7	39.9	67.9			22.0	22.0
Actuated g/C Ratio				0.35	0.35	0.35	0.32	0.55			0.18	0.18
v/c Ratio				0.61	0.83	0.73	0.70	0.65			1.17	0.81
Control Delay (s/veh)				35.1	50.1	30.2	49.6	10.2			129.6	15.7
Queue Delay				0.0	0.0	0.0	0.7	1.3			0.0	0.0
Total Delay (s/veh)				35.1	50.1	30.2	50.3	11.6			129.6	15.7
LOS				D	D	C	D	B			F	B
Approach Delay (s/veh)					37.9			23.1			98.1	
Approach LOS					D			C			F	
Queue Length 50th (ft)				236	325	217	242	180			~369	31
Queue Length 95th (ft)				288	453	338	m175	m82			#435	182
Internal Link Dist (ft)		996			1228			340			611	
Turn Bay Length (ft)				320		320						400
Base Capacity (vph)				1339	603	671	1113	2806			1349	741
Starvation Cap Reductn				0	0	0	108	699			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.54	0.74	0.66	0.77	0.87			1.17	0.81

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay (s/veh): 52.3

Intersection LOS: D

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

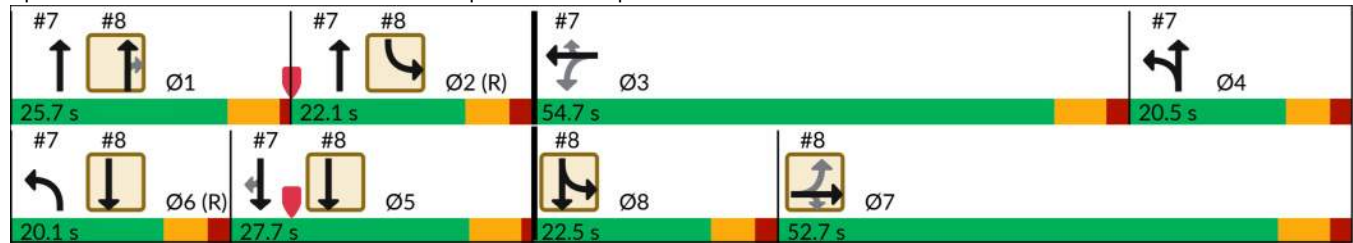
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	25.7	22.1	20.5	20.1	52.7	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023



Phase Number	1	2	3	4	5	6	7	8
Node Number	7	7	7	7	7	7	8	8
Movement	NBT	NBT	WBTL	NBTL	SBT	NBL	EBTL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Min	None	None	Max	C-Min	None	None
Maximum Split (s)	25.7	22.1	54.7	20.5	27.7	20.1	52.7	22.5
Maximum Split (%)	20.9%	18.0%	44.5%	16.7%	22.5%	16.3%	42.8%	18.3%
Minimum Split (s)	27.7	22.5	56.7	22.5	29.7	22.5	54.7	22.5
Yellow Time (s)	4.7	4	4.7	4	4.7	4	4.7	4
All-Red Time (s)	1	2	2	2	1	2	2	2
Minimum Initial (s)	10	5	7	2	10	5	7	2
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	2	1	2	1	2	1	2	1
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)	4		4		4		4	
Flash Dont Walk (s)	18		46		20		44	
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	106.3	9	31.1	85.8	3.4	106.3	53.6	31.1
End Time (s)	9	31.1	85.8	106.3	31.1	3.4	106.3	53.6
Yield/Force Off (s)	3.3	25.1	79.1	100.3	25.4	120.4	99.6	47.6
Yield/Force Off 170(s)	108.3	25.1	33.1	100.3	5.4	120.4	55.6	47.6
Local Start Time (s)	97.3	0	22.1	76.8	117.4	97.3	44.6	22.1
Local Yield (s)	117.3	16.1	70.1	91.3	16.4	111.4	90.6	38.6
Local Yield 170(s)	99.3	16.1	24.1	91.3	119.4	111.4	46.6	38.6

Intersection Summary

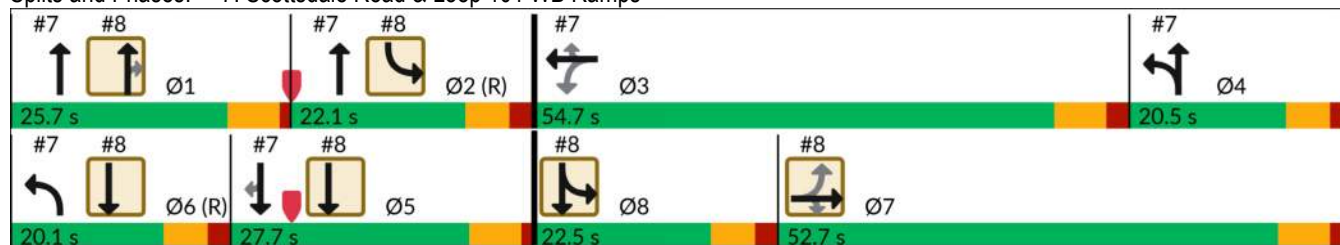
Cycle Length 123

Control Type Actuated-Coordinated

Natural Cycle 145

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	568	1	852	0	0	0	0	1839	593	469	1655	0
Future Volume (vph)	568	1	852	0	0	0	0	1839	593	469	1655	0
Satd. Flow (prot)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		10	133						645			
Lane Group Flow (vph)	617	464	463	0	0	0	0	1999	645	510	1799	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7						1		2 8	5 6 8	
Permitted Phases	7		7						1			
Total Split (s)	52.7	52.7	52.7					25.7	25.7			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effct Green (s)	46.6	46.6	46.6					20.0	20.0	38.0	64.0	
Actuated g/C Ratio	0.38	0.38	0.38					0.16	0.16	0.31	0.52	
v/c Ratio	0.47	0.81	0.71					1.63	0.81	0.48	0.68	
Control Delay (s/veh)	30.6	46.1	29.8					321.1	12.6	16.1	14.2	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.6	
Total Delay (s/veh)	30.6	46.1	29.8					321.1	12.6	16.1	14.8	
LOS	C	D	C					F	B	B	B	
Approach Delay (s/veh)		35.0						245.8			15.1	
Approach LOS		D						F			B	
Queue Length 50th (ft)	191	340	238					~565	0	43	106	
Queue Length 95th (ft)	245	#527	378					#630	133	m47	m112	
Internal Link Dist (ft)		1060			1321			938			340	
Turn Bay Length (ft)	200		200						350			
Base Capacity (vph)	1299	575	651					1226	797	1077	2670	
Starvation Cap Reductn	0	0	0					0	0	0	444	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.47	0.81	0.71					1.63	0.81	0.47	0.81	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay (s/veh): 113.7

Intersection LOS: F

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

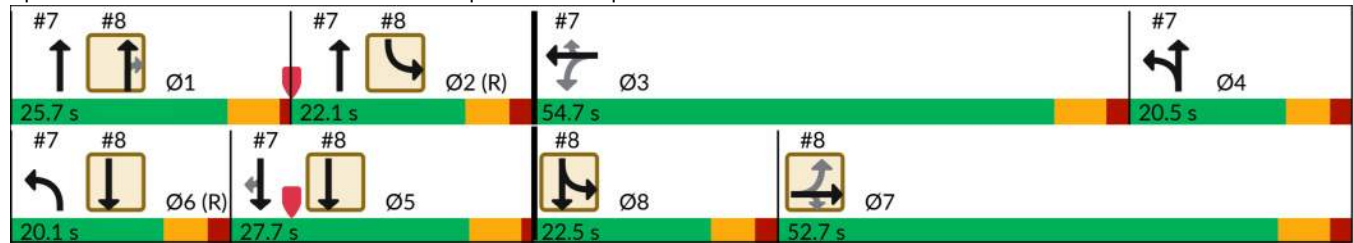
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	22.1	54.7	20.5	27.7	20.1	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	378	16	0	413	26	0	0	24	0	0	204
Future Vol, veh/h	31	378	16	0	413	26	0	0	24	0	0	204
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	411	17	0	449	28	0	0	26	0	0	222

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	-	-	0	-	-	205	-	-	224
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1081	-	-	0	-	-	0	0	801	0	0	779
Stage 1	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1081	-	-	-	-	-	-	-	801	-	-	779
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.62		0	9.65	11.45
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	801	1081	-	-	-	-	779
HCM Lane V/C Ratio	0.033	0.031	-	-	-	-	0.285
HCM Control Delay (s/veh)	9.6	8.4	-	-	-	-	11.5
HCM Lane LOS	A	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-	-	1.2

Intersection

Int Delay, s/veh 5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	14	0	0	38	31	0	0	0	13	0	71
Future Vol, veh/h	88	14	0	0	38	31	0	0	0	13	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	110	-	160	200	-	-	100	-	100	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	15	0	0	41	34	0	0	0	14	0	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	15	0	0	227	282	8	257	265	38
Stage 1	-	-	-	-	-	-	207	207	-	58	58	-
Stage 2	-	-	-	-	-	-	21	75	-	199	207	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1522	-	-	1601	-	-	709	626	1072	675	640	1026
Stage 1	-	-	-	-	-	-	776	730	-	947	846	-
Stage 2	-	-	-	-	-	-	995	832	-	784	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1522	-	-	1601	-	-	614	586	1072	633	599	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	614	586	-	633	599	-
Stage 1	-	-	-	-	-	-	727	684	-	947	846	-
Stage 2	-	-	-	-	-	-	920	832	-	735	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	6.49	0	0	9.11
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	-	-	1522	-	-	1601	-	-	633	-	1026
HCM Lane V/C Ratio	-	-	-	0.063	-	-	-	-	-	0.022	-	0.075
HCM Control Delay (s/veh)	0	0	0	7.5	-	-	0	-	-	10.8	0	8.8
HCM Lane LOS	A	A	A	A	-	-	A	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	-	0.2	-	-	0	-	-	0.1	-	0.2

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	22	0	0	58	0	0
Future Vol, veh/h	22	0	0	58	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	0	0	63	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	24
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1589
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1589
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1589	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑	↑		↑
Traffic Vol, veh/h	0	0	164	3	0	5
Future Vol, veh/h	0	0	164	3	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	178	3	0	5

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 178
Stage 1	-	- -
Stage 2	-	- -
Critical Hdwy	-	- 6.22
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- -
Follow-up Hdwy	-	- 3.318
Pot Cap-1 Maneuver	-	0 865
Stage 1	-	0 -
Stage 2	-	0 -
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	- 865
Mov Cap-2 Maneuver	-	- -
Stage 1	-	- -
Stage 2	-	- -

Approach	WB	SB
HCM Control Delay, s/v	0	9.19
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	865
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s/veh)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Appendix I – Year 2028 No Build Capacity Analysis

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↰	↰	↰↰↰	↰	↰	↰↰
Traffic Volume (veh/h)	553	87	2038	350	53	1368
Future Volume (veh/h)	553	87	2038	350	53	1368
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	601	95	2215	380	58	1487
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	673	309	2553	793	227	2447
Arrive On Green	0.19	0.19	1.00	1.00	0.13	0.69
Sat Flow, veh/h	3456	1585	5274	1585	1781	3647
Grp Volume(v), veh/h	601	95	2215	380	58	1487
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1777
Q Serve(g_s), s	20.3	6.2	0.0	0.0	3.5	26.9
Cycle Q Clear(g_c), s	20.3	6.2	0.0	0.0	3.5	26.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	673	309	2553	793	227	2447
V/C Ratio(X)	0.89	0.31	0.87	0.48	0.26	0.61
Avail Cap(c_a), veh/h	922	423	2553	793	227	2447
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	41.4	0.0	0.0	47.2	10.0
Incr Delay (d2), s/veh	7.0	0.2	4.3	2.1	0.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	5.7	1.0	0.5	1.5	9.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.1	41.6	4.3	2.1	47.4	11.1
LnGrp LOS	D	D	A	A	D	B
Approach Vol, veh/h	696		2595			1545
Approach Delay, s/veh	52.4		4.0			12.5
Approach LOS	D		A			B
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	89.9		30.1		22.6	67.3
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	74.0		32.0		7.6	* 60
Max Q Clear Time (g_c+l1), s	28.9		22.3		5.5	2.0
Green Ext Time (p_c), s	1.9		1.0		0.0	8.3

Intersection Summary

HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱	↰	↰↱↲	↰	↰	↰↱
Traffic Volume (vph)	553	87	2038	350	53	1368
Future Volume (vph)	553	87	2038	350	53	1368
Satd. Flow (prot)	3433	1583	5085	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	5085	1583	1770	3539
Satd. Flow (RTOR)		95		337		
Lane Group Flow (vph)	601	95	2215	380	58	1487
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Total Split (s)	38.7	38.7	67.3	67.3	14.0	81.3
Total Lost Time (s)	6.7	6.7	7.3	7.3	6.4	7.3
Act Effect Green (s)	25.4	25.4	69.4	69.4	7.1	80.6
Actuated g/C Ratio	0.21	0.21	0.58	0.58	0.06	0.67
v/c Ratio	0.83	0.23	0.75	0.36	0.56	0.63
Control Delay (s/veh)	55.4	8.4	17.8	2.6	74.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.4	8.4	17.8	2.6	74.9	13.2
LOS	E	A	B	A	E	B
Approach Delay (s/veh)	49.0		15.6			15.5
Approach LOS	D		B			B
Queue Length 50th (ft)	231	0	284	14	44	313
Queue Length 95th (ft)	279	42	244	41	#92	442
Internal Link Dist (ft)	572		390			2341
Turn Bay Length (ft)	120			275	200	
Base Capacity (vph)	915	491	2942	1058	112	2378
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.19	0.75	0.36	0.52	0.63

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 88 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay (s/veh): 20.4

Intersection LOS: C

Intersection Capacity Utilization 71.5%

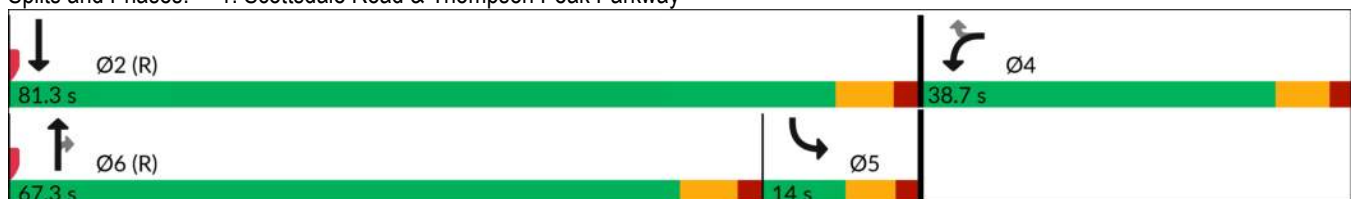
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



Lokahi, LLC

Queues

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

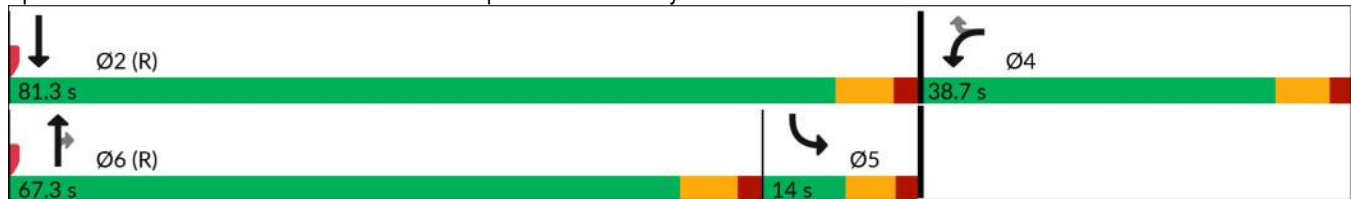


Phase Number	2	4	5	6
Movement	SBT	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	81.3	38.7	14	67.3
Maximum Split (%)	67.8%	32.3%	11.7%	56.1%
Minimum Split (s)	22.5	38.7	11.4	48.3
Yellow Time (s)	5.1	4.7	4.4	5.1
All-Red Time (s)	2.2	2	2	2.2
Minimum Initial (s)	10	15	5	10
Vehicle Extension (s)	0.2	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		8		4
Flash Dont Walk (s)		24		37
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	88	49.3	35.3	88
End Time (s)	49.3	88	49.3	35.3
Yield/Force Off (s)	42	81.3	42.9	28
Yield/Force Off 170(s)	42	57.3	42.9	111
Local Start Time (s)	0	81.3	67.3	0
Local Yield (s)	74	113.3	74.9	60
Local Yield 170(s)	74	89.3	74.9	23

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	100
Offset: 88 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	4	2383	4	0	1915
Future Vol, veh/h	0	4	2383	4	0	1915
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	2590	4	0	2082
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1295	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*546	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*546	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.64		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 546		-		
HCM Lane V/C Ratio	-	- 0.008		-		
HCM Control Delay (s/veh)	-	- 11.6		-		
HCM Lane LOS	-	- B		-		
HCM 95th %tile Q(veh)	-	- 0		-		
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗	↘	↗↗↗
Traffic Vol, veh/h	0	19	2369	23	5	1913
Future Vol, veh/h	0	19	2369	23	5	1913
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	2575	25	5	2079
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1288	0	0	2600	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	*546	-	-	165	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		0	-	-	0	-
Mov Cap-1 Maneuver	-	*546	-	-	165	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.85		0		0.07		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	546	165	-	
HCM Lane V/C Ratio	-	-	0.038	0.033	-	
HCM Control Delay (s/veh)	-	-	11.8	27.5	-	
HCM Lane LOS	-	-	B	D	-	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	0	2391	4	0	1916
Future Vol, veh/h	0	0	2391	4	0	1916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2599	4	0	2083
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	1299	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*607	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*607	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	39	2358	101	4	1912
Future Volume (veh/h)	70	39	2358	101	4	1912
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	42	2563	110	4	2078
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	198	91	3391	1053	305	4265
Arrive On Green	0.06	0.06	0.66	0.66	0.24	1.00
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	76	42	2563	110	4	2078
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	2.5	3.1	40.6	3.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	3.1	40.6	3.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	198	91	3391	1053	305	4265
V/C Ratio(X)	0.38	0.46	0.76	0.10	0.01	0.49
Avail Cap(c_a), veh/h	472	217	3391	1053	305	4265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	54.8	13.6	7.3	17.6	0.0
Incr Delay (d2), s/veh	0.5	1.4	1.6	0.2	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.8	13.6	1.0	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.0	56.2	15.2	7.5	17.6	0.4
LnGrp LOS	D	E	B	A	B	A
Approach Vol, veh/h	118		2673			2082
Approach Delay, s/veh	55.4		14.9			0.4
Approach LOS	E		B			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	106.5		13.5		20.5	86.0
Change Period (Y+Rc), s	* 6.3		6.6		* 6.3	* 6.3
Max Green Setting (Gmax), s	* 91		16.4		* 5	* 80
Max Q Clear Time (g_c+I1), s	2.0		5.1		2.0	42.6
Green Ext Time (p_c), s	7.1		0.1		0.0	10.5
Intersection Summary						
HCM 7th Control Delay, s/veh			9.7			
HCM 7th LOS			A			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

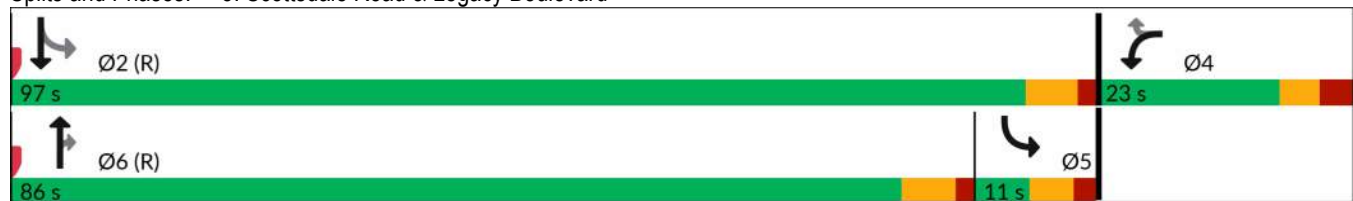


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lag	Lead
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	97	23	11	86
Maximum Split (%)	80.8%	19.2%	9.2%	71.7%
Minimum Split (s)	22.5	22.5	11	39.3
Yellow Time (s)	4.7	3.6	4	4.7
All-Red Time (s)	1.6	3	2	1.6
Minimum Initial (s)	10	7	5	5
Vehicle Extension (s)	1	2	2	1
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				7
Flash Dont Walk (s)				26
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	75	52	41	75
End Time (s)	52	75	52	41
Yield/Force Off (s)	45.7	68.4	46	34.7
Yield/Force Off 170(s)	45.7	68.4	46	8.7
Local Start Time (s)	0	97	86	0
Local Yield (s)	90.7	113.4	91	79.7
Local Yield 170(s)	90.7	113.4	91	53.7

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



5: Scottsdale Road & Legacy Boulevard

12/08/2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↖↖	↖	↖	↖↖↖
Traffic Volume (vph)	70	39	2358	101	4	1912
Future Volume (vph)	70	39	2358	101	4	1912
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.040	
Satd. Flow (perm)	3433	1583	5085	1583	75	5085
Satd. Flow (RTOR)		42		69		
Lane Group Flow (vph)	76	42	2563	110	4	2078
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	86.0	86.0	11.0	97.0
Total Lost Time (s)	6.6	6.6	6.3	6.3	6.0	6.3
Act Effect Green (s)	7.6	7.6	101.2	101.2	102.5	103.4
Actuated g/C Ratio	0.06	0.06	0.84	0.84	0.85	0.86
v/c Ratio	0.35	0.30	0.60	0.08	0.03	0.47
Control Delay (s/veh)	58.1	21.5	5.1	1.6	2.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.1	21.5	5.1	1.6	2.0	1.8
LOS	E	C	A	A	A	A
Approach Delay (s/veh)	45.1		5.0			1.8
Approach LOS	D		A			A
Queue Length 50th (ft)	29	0	184	4	0	74
Queue Length 95th (ft)	54	36	402	23	m1	95
Internal Link Dist (ft)	296		311			320
Turn Bay Length (ft)	240			140	190	
Base Capacity (vph)	469	252	4290	1346	134	4383
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.60	0.08	0.03	0.47

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 4.6

Intersection LOS: A

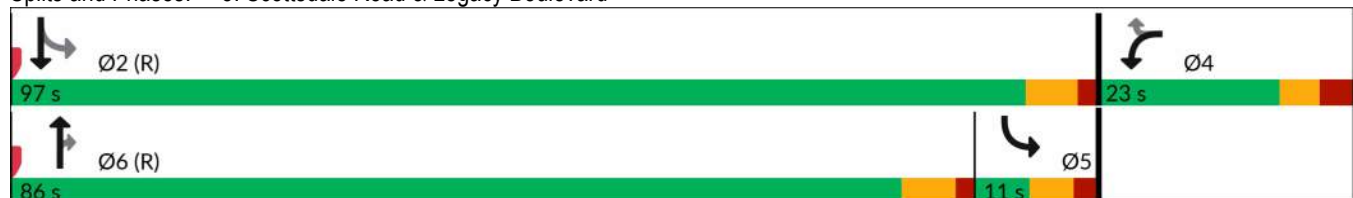
Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



Year 2028 PM No Build Peak Hour - Baseline
Lokahi, LLC

Synchro 12 Report
Queues

6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	27	8	2451	8	12	1982
Future Volume (veh/h)	27	8	2451	8	12	1982
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	9	2664	9	13	2154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	139	64	4230	1313	152	4481
Arrive On Green	0.04	0.04	0.83	0.83	0.01	0.88
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	29	9	2664	9	13	2154
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	1.1	0.7	24.3	0.1	0.1	11.6
Cycle Q Clear(g_c), s	1.1	0.7	24.3	0.1	0.1	11.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	139	64	4230	1313	152	4481
V/C Ratio(X)	0.21	0.14	0.63	0.01	0.09	0.48
Avail Cap(c_a), veh/h	478	219	4230	1313	202	4481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	60.4	60.2	4.0	1.9	4.3	1.7
Incr Delay (d2), s/veh	0.3	0.4	0.5	0.0	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	5.1	0.0	0.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.7	60.6	4.5	1.9	4.6	2.1
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	38		2673			2167
Approach Delay, s/veh	60.6		4.5			2.1
Approach LOS	E		A			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	119.8		10.2		6.4	113.4
Change Period (Y+Rc), s	5.7		5.0		4.5	5.7
Max Green Setting (Gmax), s	100.8		18.0		5.5	90.8
Max Q Clear Time (g_c+I1), s	13.6		3.1		2.1	26.3
Green Ext Time (p_c), s	17.5		0.0		0.0	27.8
Intersection Summary						
HCM 7th Control Delay, s/veh			3.9			
HCM 7th LOS			A			

6: Scottsdale Road & Henkel Way

12/08/2023

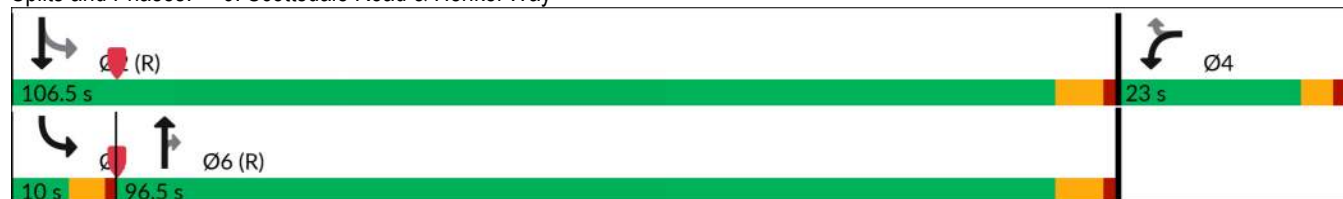


Phase Number	2	4	5	6
Movement	SBTL	WBL	SBL	NBT
Lead/Lag			Lead	Lag
Lead-Lag Optimize			Yes	Yes
Recall Mode	C-Max	None	None	C-Max
Maximum Split (s)	106.5	23	10	96.5
Maximum Split (%)	82.2%	17.8%	7.7%	74.5%
Minimum Split (s)	22.5	22.5	9.5	31.7
Yellow Time (s)	4.7	3	3.5	4.7
All-Red Time (s)	1	2	1	1
Minimum Initial (s)	10	7	5	10
Vehicle Extension (s)	2	2	3	2
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)				4
Flash Dont Walk (s)				22
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	18	124.5	18	28
End Time (s)	124.5	18	28	124.5
Yield/Force Off (s)	118.8	13	23.5	118.8
Yield/Force Off 170(s)	118.8	13	23.5	96.8
Local Start Time (s)	119.5	96.5	119.5	0
Local Yield (s)	90.8	114.5	125	90.8
Local Yield 170(s)	90.8	114.5	125	68.8

Intersection Summary

Cycle Length	129.5
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	

Splits and Phases: 6: Scottsdale Road & Henkel Way



6: Scottsdale Road & Henkel Way

12/08/2023

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑	↘	↙	↑↑↑
Traffic Volume (vph)	27	8	2451	8	12	1982
Future Volume (vph)	27	8	2451	8	12	1982
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.036	
Satd. Flow (perm)	3433	1583	5085	1583	67	5085
Satd. Flow (RTOR)		9		6		
Lane Group Flow (vph)	29	9	2664	9	13	2154
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	96.5	96.5	10.0	106.5
Total Lost Time (s)	5.0	5.0	5.7	5.7	4.5	5.7
Act Effect Green (s)	7.0	7.0	114.8	114.8	117.8	118.9
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.91	0.92
v/c Ratio	0.16	0.10	0.59	0.01	0.10	0.46
Control Delay (s/veh)	60.5	31.3	4.2	1.9	2.4	1.8
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay (s/veh)	60.5	31.3	4.5	1.9	2.4	1.8
LOS	E	C	A	A	A	A
Approach Delay (s/veh)	53.6		4.5			1.8
Approach LOS	D		A			A
Queue Length 50th (ft)	12	0	167	0	1	111
Queue Length 95th (ft)	28	19	349	4	3	125
Internal Link Dist (ft)	358		611			258
Turn Bay Length (ft)	150			150	198	
Base Capacity (vph)	477	227	4507	1404	135	4667
Starvation Cap Reductn	0	0	1027	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.77	0.01	0.10	0.46

Intersection Summary

Cycle Length: 129.5

Actuated Cycle Length: 129.5

Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 3.7

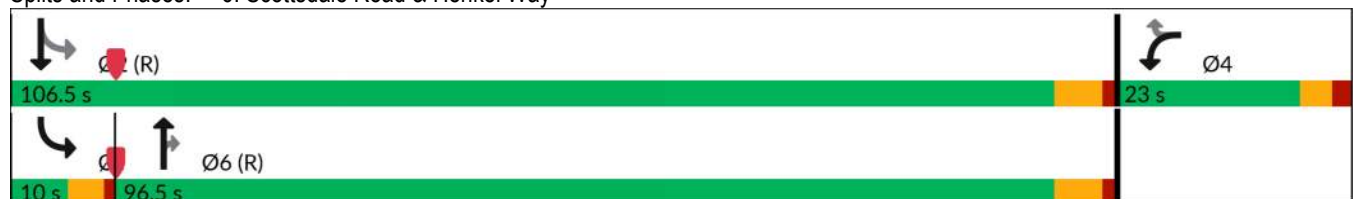
Intersection LOS: A

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Scottsdale Road & Henkel Way



7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	669	51	770	716	1690	0	0	1454	555
Future Volume (vph)	0	0	0	669	51	770	716	1690	0	0	1454	555
Satd. Flow (prot)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1536	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					7	139						558
Lane Group Flow (vph)	0	0	0	727	448	444	778	1837	0	0	1580	603
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					3		4 6	1 2 4			5	
Permitted Phases				3		3						5
Total Split (s)				54.7	54.7	54.7					27.7	27.7
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effect Green (s)				42.7	42.7	42.7	39.9	67.9			22.0	22.0
Actuated g/C Ratio				0.35	0.35	0.35	0.32	0.55			0.18	0.18
v/c Ratio				0.61	0.83	0.73	0.70	0.65			1.17	0.81
Control Delay (s/veh)				35.1	50.1	30.2	49.6	10.2			129.6	15.7
Queue Delay				0.0	0.0	0.0	0.7	1.3			0.0	0.0
Total Delay (s/veh)				35.1	50.1	30.2	50.3	11.6			129.6	15.7
LOS				D	D	C	D	B			F	B
Approach Delay (s/veh)					37.9			23.1			98.1	
Approach LOS					D			C			F	
Queue Length 50th (ft)				236	325	217	242	180			~369	31
Queue Length 95th (ft)				288	453	338	m175	m82			#435	182
Internal Link Dist (ft)		996			1228			340			611	
Turn Bay Length (ft)				320		320						400
Base Capacity (vph)				1339	603	671	1113	2806			1349	741
Starvation Cap Reductn				0	0	0	108	699			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.54	0.74	0.66	0.77	0.87			1.17	0.81

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay (s/veh): 52.3

Intersection LOS: D

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

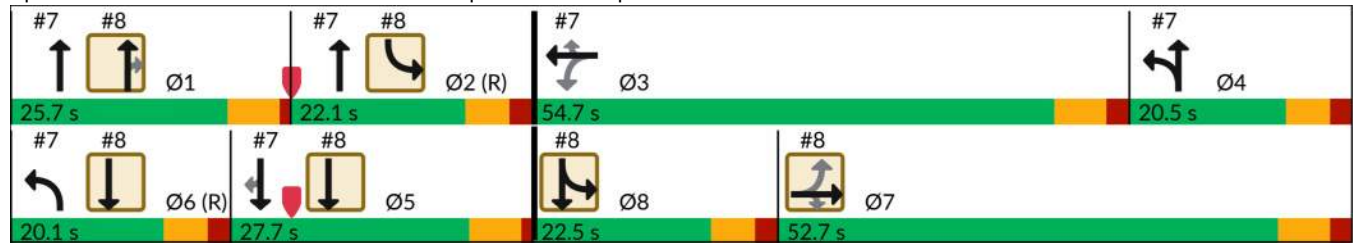
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	25.7	22.1	20.5	20.1	52.7	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023



Phase Number	1	2	3	4	5	6	7	8
Node Number	7	7	7	7	7	7	8	8
Movement	NBT	NBT	WBTL	NBTL	SBT	NBL	EBTL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Min	None	None	Max	C-Min	None	None
Maximum Split (s)	25.7	22.1	54.7	20.5	27.7	20.1	52.7	22.5
Maximum Split (%)	20.9%	18.0%	44.5%	16.7%	22.5%	16.3%	42.8%	18.3%
Minimum Split (s)	27.7	22.5	56.7	22.5	29.7	22.5	54.7	22.5
Yellow Time (s)	4.7	4	4.7	4	4.7	4	4.7	4
All-Red Time (s)	1	2	2	2	1	2	2	2
Minimum Initial (s)	10	5	7	2	10	5	7	2
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	2	1	2	1	2	1	2	1
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)	4		4		4		4	
Flash Dont Walk (s)	18		46		20		44	
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	106.3	9	31.1	85.8	3.4	106.3	53.6	31.1
End Time (s)	9	31.1	85.8	106.3	31.1	3.4	106.3	53.6
Yield/Force Off (s)	3.3	25.1	79.1	100.3	25.4	120.4	99.6	47.6
Yield/Force Off 170(s)	108.3	25.1	33.1	100.3	5.4	120.4	55.6	47.6
Local Start Time (s)	97.3	0	22.1	76.8	117.4	97.3	44.6	22.1
Local Yield (s)	117.3	16.1	70.1	91.3	16.4	111.4	90.6	38.6
Local Yield 170(s)	99.3	16.1	24.1	91.3	119.4	111.4	46.6	38.6

Intersection Summary

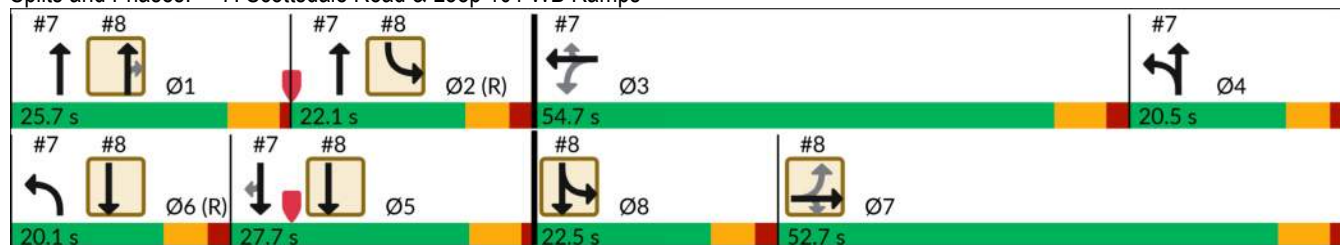
Cycle Length 123

Control Type Actuated-Coordinated

Natural Cycle 145

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	568	1	852	0	0	0	0	1839	593	469	1655	0
Future Volume (vph)	568	1	852	0	0	0	0	1839	593	469	1655	0
Satd. Flow (prot)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1504	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		10	133						645			
Lane Group Flow (vph)	617	464	463	0	0	0	0	1999	645	510	1799	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7						1		2 8	5 6 8	
Permitted Phases	7		7						1			
Total Split (s)	52.7	52.7	52.7					25.7	25.7			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effct Green (s)	46.6	46.6	46.6					20.0	20.0	38.0	64.0	
Actuated g/C Ratio	0.38	0.38	0.38					0.16	0.16	0.31	0.52	
v/c Ratio	0.47	0.81	0.71					1.63	0.81	0.48	0.68	
Control Delay (s/veh)	30.6	46.1	29.8					321.1	12.6	16.1	14.2	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.6	
Total Delay (s/veh)	30.6	46.1	29.8					321.1	12.6	16.1	14.8	
LOS	C	D	C					F	B	B	B	
Approach Delay (s/veh)		35.0						245.8			15.1	
Approach LOS		D						F			B	
Queue Length 50th (ft)	191	340	238					~565	0	43	106	
Queue Length 95th (ft)	245	#527	378					#630	133	m47	m112	
Internal Link Dist (ft)		1060			1321			938			340	
Turn Bay Length (ft)	200		200						350			
Base Capacity (vph)	1299	575	651					1226	797	1077	2670	
Starvation Cap Reductn	0	0	0					0	0	0	444	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.47	0.81	0.71					1.63	0.81	0.47	0.81	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 9 (7%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay (s/veh): 113.7

Intersection LOS: F

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

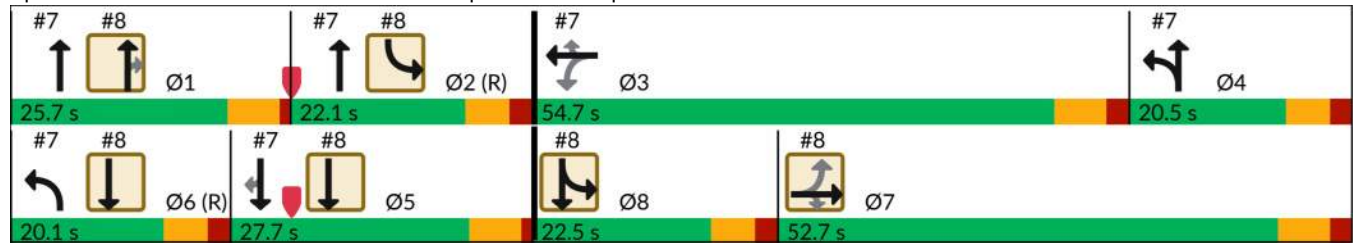
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	22.1	54.7	20.5	27.7	20.1	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	378	16	0	413	26	0	0	24	0	0	204
Future Vol, veh/h	31	378	16	0	413	26	0	0	24	0	0	204
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	411	17	0	449	28	0	0	26	0	0	222

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	-	-	0	-	-	205	-	-	224
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1081	-	-	0	-	-	0	0	801	0	0	779
Stage 1	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1081	-	-	-	-	-	-	-	801	-	-	779
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.62		0	9.65	11.45
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	801	1081	-	-	-	-	779
HCM Lane V/C Ratio	0.033	0.031	-	-	-	-	0.285
HCM Control Delay (s/veh)	9.6	8.4	-	-	-	-	11.5
HCM Lane LOS	A	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-	-	1.2

Intersection

Int Delay, s/veh 5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	14	0	0	38	31	0	0	0	13	0	71
Future Vol, veh/h	88	14	0	0	38	31	0	0	0	13	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	110	-	160	200	-	-	100	-	100	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	15	0	0	41	34	0	0	0	14	0	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	15	0	0	227	282	8	257	265	38
Stage 1	-	-	-	-	-	-	207	207	-	58	58	-
Stage 2	-	-	-	-	-	-	21	75	-	199	207	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1522	-	-	1601	-	-	709	626	1072	675	640	1026
Stage 1	-	-	-	-	-	-	776	730	-	947	846	-
Stage 2	-	-	-	-	-	-	995	832	-	784	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1522	-	-	1601	-	-	614	586	1072	633	599	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	614	586	-	633	599	-
Stage 1	-	-	-	-	-	-	727	684	-	947	846	-
Stage 2	-	-	-	-	-	-	920	832	-	735	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	6.49	0	0	9.11
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	-	-	1522	-	-	1601	-	-	633	-	1026
HCM Lane V/C Ratio	-	-	-	0.063	-	-	-	-	-	0.022	-	0.075
HCM Control Delay (s/veh)	0	0	0	7.5	-	-	0	-	-	10.8	0	8.8
HCM Lane LOS	A	A	A	A	-	-	A	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	-	0.2	-	-	0	-	-	0.1	-	0.2

11: Driveway D & Legacy Boulevard

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	22	0	0	58	0	0
Future Vol, veh/h	22	0	0	58	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	0	0	63	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	24
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1589
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1589
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1589	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑	↑		↑
Traffic Vol, veh/h	0	0	164	3	0	5
Future Vol, veh/h	0	0	164	3	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	178	3	0	5

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 178
Stage 1	-	- -
Stage 2	-	- -
Critical Hdwy	-	- 6.22
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- -
Follow-up Hdwy	-	- 3.318
Pot Cap-1 Maneuver	-	0 865
Stage 1	-	0 -
Stage 2	-	0 -
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	- 865
Mov Cap-2 Maneuver	-	- -
Stage 1	-	- -
Stage 2	-	- -

Approach	WB	SB
HCM Control Delay, s/v	0	9.19
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	865
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s/veh)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	287	72	1502	494	57	1810
Future Volume (veh/h)	287	72	1502	494	57	1810
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	312	78	1633	537	62	1967
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	432	198	2464	765	383	2695
Arrive On Green	0.12	0.12	0.16	0.16	0.22	0.76
Sat Flow, veh/h	3456	1585	5274	1585	1781	3647
Grp Volume(v), veh/h	312	78	1633	537	62	1967
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1777
Q Serve(g_s), s	10.4	5.4	36.1	38.5	3.4	36.0
Cycle Q Clear(g_c), s	10.4	5.4	36.1	38.5	3.4	36.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	432	198	2464	765	383	2695
V/C Ratio(X)	0.72	0.39	0.66	0.70	0.16	0.73
Avail Cap(c_a), veh/h	922	423	2464	765	383	2695
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	48.3	41.3	42.3	38.3	7.8
Incr Delay (d2), s/veh	0.9	0.5	1.4	5.3	0.1	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.9	16.6	17.4	1.5	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.4	48.8	42.7	47.6	38.4	9.6
LnGrp LOS	D	D	D	D	D	A
Approach Vol, veh/h	390		2170			2029
Approach Delay, s/veh	50.8		43.9			10.5
Approach LOS	D		D			B
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	98.3		21.7		33.1	65.2
Change Period (Y+Rc), s	7.3		6.7		7.3	* 7.3
Max Green Setting (Gmax), s	74.0		32.0		9.7	* 58
Max Q Clear Time (g_c+I1), s	38.0		12.4		5.4	40.5
Green Ext Time (p_c), s	2.9		0.6		0.0	4.5
Intersection Summary						
HCM 7th Control Delay, s/veh			29.7			
HCM 7th LOS			C			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

1: Scottsdale Road & Thompson Peak Parkway

12/08/2023

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↑↑↑	↗	↖	↑↑
Traffic Volume (vph)	287	72	1502	494	57	1810
Future Volume (vph)	287	72	1502	494	57	1810
Satd. Flow (prot)	3433	1583	5085	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	5085	1583	1770	3539
Satd. Flow (RTOR)		78		537		
Lane Group Flow (vph)	312	78	1633	537	62	1967
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6		
Total Split (s)	38.7	38.7	65.2	65.2	16.1	81.3
Total Lost Time (s)	6.7	6.7	7.3	7.3	6.4	7.3
Act Effect Green (s)	16.4	16.4	76.7	76.7	8.8	89.6
Actuated g/C Ratio	0.14	0.14	0.64	0.64	0.07	0.75
v/c Ratio	0.67	0.28	0.50	0.45	0.48	0.74
Control Delay (s/veh)	56.4	12.2	7.1	2.7	65.6	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.4	12.2	7.1	2.7	65.6	11.2
LOS	E	B	A	A	E	B
Approach Delay (s/veh)	47.6		6.0			12.9
Approach LOS	D		A			B
Queue Length 50th (ft)	121	0	240	30	47	375
Queue Length 95th (ft)	163	44	237	63	93	542
Internal Link Dist (ft)	572		390			2341
Turn Bay Length (ft)	120			275	200	
Base Capacity (vph)	915	479	3250	1205	143	2642
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.16	0.50	0.45	0.43	0.74

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay (s/veh): 12.6

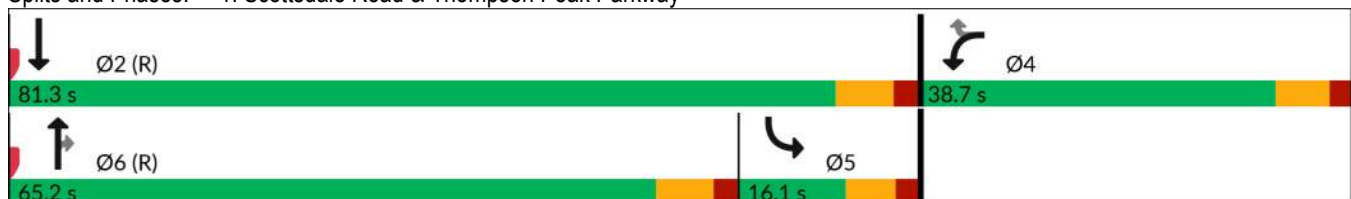
Intersection LOS: B

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Scottsdale Road & Thompson Peak Parkway



2: Scottsdale Road & Driveway A

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↑↑↑	↗		↑↑↑
Traffic Vol, veh/h	0	1	1995	2	0	2096
Future Vol, veh/h	0	1	1995	2	0	2096
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	2168	2	0	2278
Major/Minor	Minor1		Major1	Major2		
Conflicting Flow All	-	1084	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*605	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*605	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB	SB		
HCM Control Delay, s/v10.96			0	0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1	SBT		
Capacity (veh/h)	-		- 605	-		
HCM Lane V/C Ratio	-		- 0.002	-		
HCM Control Delay (s/veh)	-		- 11	-		
HCM Lane LOS	-		- B	-		
HCM 95th %tile Q(veh)	-		- 0	-		
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

3: Scottsdale Road & Driveway B

12/08/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	27	1970	8	5	2094
Future Vol, veh/h	0	27	1970	8	5	2094
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	2141	9	5	2276
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	1071	0	0	2150	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	*605	-	-	277	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		0	-	-	0	-
Mov Cap-1 Maneuver	-	*605	-	-	277	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.25		0		0.04		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	605	277	-	
HCM Lane V/C Ratio	-	-	0.048	0.02	-	
HCM Control Delay (s/veh)	-	-	11.2	18.2	-	
HCM Lane LOS	-	-	B	C	-	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

4: Scottsdale Road & Driveway C

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	0	1977	4	0	2097
Future Vol, veh/h	0	0	1977	4	0	2097
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	90	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2149	4	0	2279
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1074	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*666	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		0	-	-	-	-
Mov Cap-1 Maneuver	-	*666	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBT	
Capacity (veh/h)	-		-		-	
HCM Lane V/C Ratio	-		-		-	
HCM Control Delay (s/veh)	-		0		-	
HCM Lane LOS	-		A		-	
HCM 95th %tile Q(veh)	-		-		-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	96	12	1970	44	12	2085
Future Volume (veh/h)	96	12	1970	44	12	2085
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	13	2141	48	13	2266
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	198	91	3306	1026	368	4265
Arrive On Green	0.06	0.06	0.65	0.65	0.14	0.84
Sat Flow, veh/h	3456	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	104	13	2141	48	13	2266
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1585	1781	1702
Q Serve(g_s), s	3.5	0.9	30.5	1.3	0.0	15.8
Cycle Q Clear(g_c), s	3.5	0.9	30.5	1.3	0.0	15.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	198	91	3306	1026	368	4265
V/C Ratio(X)	0.53	0.14	0.65	0.05	0.04	0.53
Avail Cap(c_a), veh/h	501	230	3306	1026	368	4265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	53.8	12.8	7.7	15.4	2.9
Incr Delay (d2), s/veh	0.8	0.3	1.0	0.1	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	10.4	0.4	0.2	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	55.8	54.0	13.8	7.8	15.4	3.4
LnGrp LOS	E	D	B	A	B	A
Approach Vol, veh/h	117		2189			2279
Approach Delay, s/veh	55.6		13.7			3.5
Approach LOS	E		B			A
Timer - Assigned Phs	2		4		5	6
Phs Duration (G+Y+Rc), s	106.5		13.5		22.5	84.0
Change Period (Y+Rc), s	* 6.3		6.6		* 6.3	* 6.3
Max Green Setting (Gmax), s	* 90		17.4		* 6	* 78
Max Q Clear Time (g_c+l1), s	17.8		5.5		2.0	32.5
Green Ext Time (p_c), s	8.4		0.1		0.0	7.4
Intersection Summary						
HCM 7th Control Delay, s/veh			9.7			
HCM 7th LOS			A			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

5: Scottsdale Road & Legacy Boulevard

12/08/2023

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↖↖	↖	↖	↖↖↖
Traffic Volume (vph)	96	12	1970	44	12	2085
Future Volume (vph)	96	12	1970	44	12	2085
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.067	
Satd. Flow (perm)	3433	1583	5085	1583	125	5085
Satd. Flow (RTOR)		13		34		
Lane Group Flow (vph)	104	13	2141	48	13	2266
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Total Split (s)	24.0	24.0	84.0	84.0	12.0	96.0
Total Lost Time (s)	6.6	6.6	6.3	6.3	6.0	6.3
Act Effect Green (s)	8.3	8.3	94.0	94.0	99.1	98.8
Actuated g/C Ratio	0.07	0.07	0.78	0.78	0.83	0.82
v/c Ratio	0.44	0.11	0.54	0.04	0.07	0.54
Control Delay (s/veh)	59.2	25.0	6.1	2.3	4.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.2	25.0	6.1	2.3	4.8	5.5
LOS	E	C	A	A	A	A
Approach Delay (s/veh)	55.4		6.0			5.5
Approach LOS	E		A			A
Queue Length 50th (ft)	40	0	140	2	2	190
Queue Length 95th (ft)	68	21	300	14	m3	356
Internal Link Dist (ft)	296		311			320
Turn Bay Length (ft)	240			140	190	
Base Capacity (vph)	497	240	3983	1247	185	4186
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.05	0.54	0.04	0.07	0.54

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 115 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 7.0

Intersection LOS: A

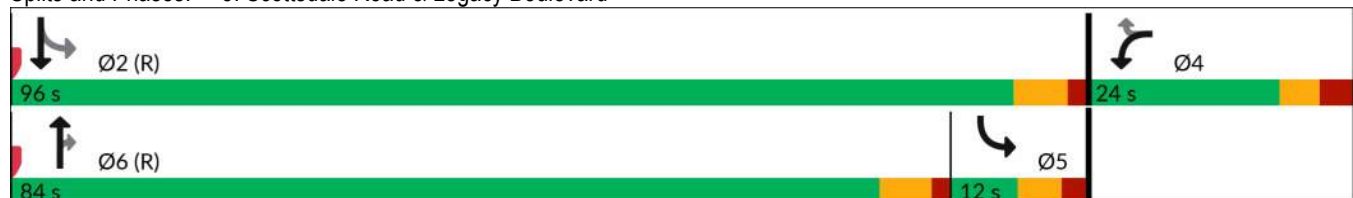
Intersection Capacity Utilization 56.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Scottsdale Road & Legacy Boulevard



Year 2028 AM No Build Peak Hour - Baseline
Lokahi, LLC

Synchro 12 Report
Queues

6: Scottsdale Road & Henkel Way

12/08/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	3	2010	28	12	2169
Future Volume (veh/h)	3	3	2010	28	12	2169
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	3	2185	30	13	2358
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	37	17	4597	1427	204	4597
Arrive On Green	0.01	0.01	0.90	0.90	0.90	0.90
Sat Flow, veh/h	3456	1585	5274	1585	174	5274
Grp Volume(v), veh/h	3	3	2185	30	13	2358
Grp Sat Flow(s), veh/h/ln	1728	1585	1702	1585	174	1702
Q Serve(g_s), s	0.1	0.2	9.0	0.2	1.7	10.3
Cycle Q Clear(g_c), s	0.1	0.2	9.0	0.2	10.6	10.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	37	17	4597	1427	204	4597
V/C Ratio(X)	0.08	0.18	0.48	0.02	0.06	0.51
Avail Cap(c_a), veh/h	518	238	4597	1427	204	4597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	58.8	58.8	1.0	0.6	2.0	1.1
Incr Delay (d2), s/veh	0.4	1.9	0.3	0.0	0.6	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	0.0	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	59.1	60.7	1.3	0.6	2.6	1.5
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	6		2215			2371
Approach Delay, s/veh	59.9		1.3			1.5
Approach LOS	E		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		113.7		6.3		113.7
Change Period (Y+Rc), s		5.7		5.0		5.7
Max Green Setting (Gmax), s		91.3		18.0		91.3
Max Q Clear Time (g_c+I1), s		12.6		2.2		11.0
Green Ext Time (p_c), s		23.0		0.0		18.1
Intersection Summary						
HCM 7th Control Delay, s/veh			1.5			
HCM 7th LOS			A			

6: Scottsdale Road & Henkel Way

12/08/2023

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑	↘	↙	↑↑↑
Traffic Volume (vph)	3	3	2010	28	12	2169
Future Volume (vph)	3	3	2010	28	12	2169
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.075	
Satd. Flow (perm)	3433	1583	5085	1583	140	5085
Satd. Flow (RTOR)		3		30		
Lane Group Flow (vph)	3	3	2185	30	13	2358
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Total Split (s)	23.0	23.0	97.0	97.0	97.0	97.0
Total Lost Time (s)	5.0	5.0	5.7	5.7	5.7	5.7
Act Effect Green (s)	7.0	7.0	116.5	116.5	116.5	116.5
Actuated g/C Ratio	0.06	0.06	0.97	0.97	0.97	0.97
v/c Ratio	0.02	0.03	0.44	0.02	0.10	0.48
Control Delay (s/veh)	53.3	35.7	0.9	0.4	1.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.3	35.7	0.9	0.4	1.8	0.5
LOS	D	D	A	A	A	A
Approach Delay (s/veh)	44.5		0.9			0.6
Approach LOS	D		A			A
Queue Length 50th (ft)	1	0	0	0	0	0
Queue Length 95th (ft)	6	11	129	3	m1	66
Internal Link Dist (ft)	358		611			379
Turn Bay Length (ft)	150			150	198	
Base Capacity (vph)	514	240	4935	1537	136	4935
Starvation Cap Reductn	0	0	366	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.48	0.02	0.10	0.48

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 11 (9%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 0.8

Intersection LOS: A

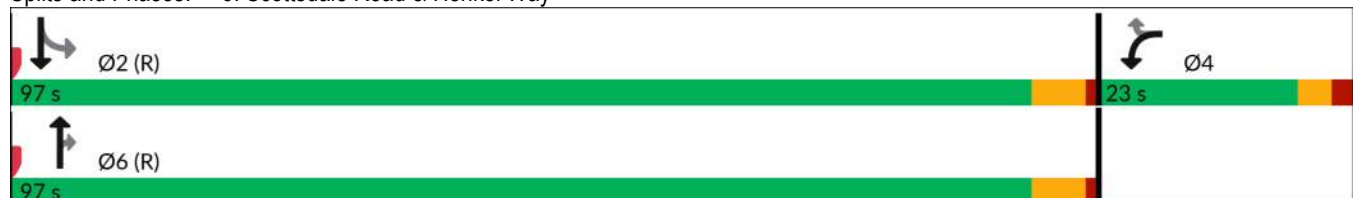
Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Scottsdale Road & Henkel Way



Year 2028 AM No Build Peak Hour - Baseline
Lokahi, LLC

Synchro 12 Report
Queues

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	436	5	550	409	1488	0	0	1603	570
Future Volume (vph)	0	0	0	436	5	550	409	1488	0	0	1603	570
Satd. Flow (prot)	0	0	0	3433	1508	1504	3433	5085	0	0	7544	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3433	1508	1504	3433	5085	0	0	7544	1583
Satd. Flow (RTOR)					14	190						620
Lane Group Flow (vph)	0	0	0	474	304	299	445	1617	0	0	1742	620
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					3		4 6	1 2 4			5	
Permitted Phases				3		3						5
Total Split (s)				54.7	54.7	54.7					27.7	27.7
Total Lost Time (s)				6.7	6.7	6.7					5.7	5.7
Act Effct Green (s)				31.4	31.4	31.4	51.2	79.2			22.0	22.0
Actuated g/C Ratio				0.26	0.26	0.26	0.42	0.64			0.18	0.18
v/c Ratio				0.54	0.77	0.57	0.31	0.49			1.29	0.78
Control Delay (s/veh)				40.8	52.6	17.2	24.9	3.3			177.5	11.4
Queue Delay				0.0	0.0	0.0	0.0	0.4			0.0	0.0
Total Delay (s/veh)				40.8	52.6	17.2	24.9	3.7			177.6	11.4
LOS				D	D	B	C	A			F	B
Approach Delay (s/veh)					37.6			8.3			134.0	
Approach LOS					D			A			F	
Queue Length 50th (ft)				168	226	74	93	46			~435	0
Queue Length 95th (ft)				191	293	149	m155	179			#500	125
Internal Link Dist (ft)		996			1228			340			611	
Turn Bay Length (ft)				320		320						400
Base Capacity (vph)				1339	597	702	1428	3273			1349	792
Starvation Cap Reductn				0	0	0	0	983			0	0
Spillback Cap Reductn				0	0	0	0	0			17	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.35	0.51	0.43	0.31	0.71			1.31	0.78

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay (s/veh): 68.0

Intersection LOS: E

Intersection Capacity Utilization 79.3%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

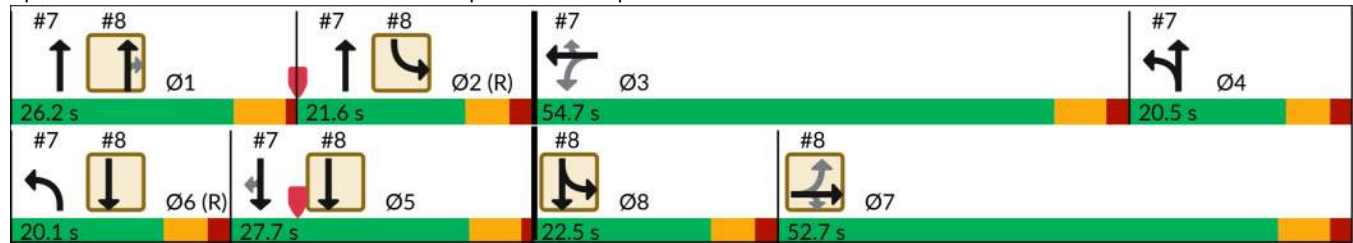
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Total Split (s)	26.2	21.6	20.5	20.1	52.7	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

7: Scottsdale Road & Loop 101 WB Ramps

12/08/2023

								
Phase Number	1	2	3	4	5	6	7	8
Node Number	7	7	7	7	7	7	8	8
Movement	NBT	NBT	WBTL	NBTL	SBT	NBL	EBTL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Min	None	None	Max	C-Min	None	None
Maximum Split (s)	26.2	21.6	54.7	20.5	27.7	20.1	52.7	22.5
Maximum Split (%)	21.3%	17.6%	44.5%	16.7%	22.5%	16.3%	42.8%	18.3%
Minimum Split (s)	27.7	22.5	56.7	22.5	29.7	22.5	54.7	22.5
Yellow Time (s)	4.7	4	4.7	4	4.7	4	4.7	4
All-Red Time (s)	1	2	2	2	1	2	2	2
Minimum Initial (s)	10	5	7	2	10	5	7	2
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	2	1	2	1	2	1	2	1
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)	4		4		4		4	
Flash Dont Walk (s)	18		46		20		44	
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	58.8	85	106.6	38.3	78.9	58.8	6.1	106.6
End Time (s)	85	106.6	38.3	58.8	106.6	78.9	58.8	6.1
Yield/Force Off (s)	79.3	100.6	31.6	52.8	100.9	72.9	52.1	0.1
Yield/Force Off 170(s)	61.3	100.6	108.6	52.8	80.9	72.9	8.1	0.1
Local Start Time (s)	96.8	0	21.6	76.3	116.9	96.8	44.1	21.6
Local Yield (s)	117.3	15.6	69.6	90.8	15.9	110.9	90.1	38.1
Local Yield 170(s)	99.3	15.6	23.6	90.8	118.9	110.9	46.1	38.1

Intersection Summary

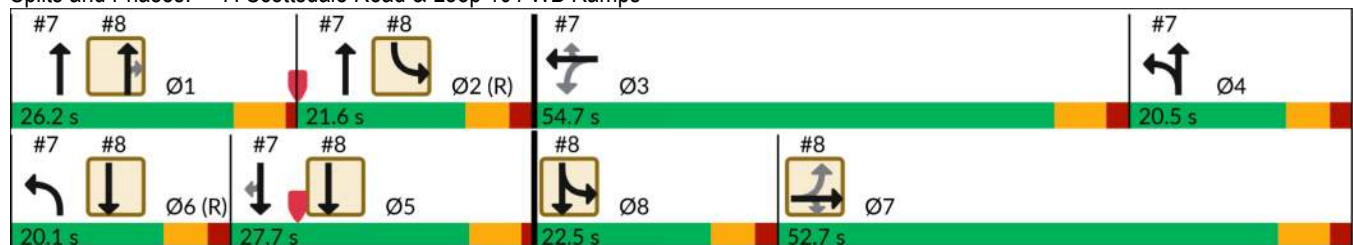
Cycle Length 123

Control Type Actuated-Coordinated

Natural Cycle 135

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Splits and Phases: 7: Scottsdale Road & Loop 101 WB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	835	3	990	0	0	0	0	1062	338	675	1364	0
Future Volume (vph)	835	3	990	0	0	0	0	1062	338	675	1364	0
Satd. Flow (prot)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3433	1506	1504	0	0	0	0	7544	1583	3433	5085	0
Satd. Flow (RTOR)		24	184						367			
Lane Group Flow (vph)	908	541	538	0	0	0	0	1154	367	734	1483	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		7						1		2 8	5 6 8	
Permitted Phases	7		7						1			
Total Split (s)	52.7	52.7	52.7					26.2	26.2			
Total Lost Time (s)	6.7	6.7	6.7					5.7	5.7			
Act Effct Green (s)	45.4	45.4	45.4					21.7	21.7	37.5	65.2	
Actuated g/C Ratio	0.37	0.37	0.37					0.18	0.18	0.30	0.53	
v/c Ratio	0.72	0.95	0.80					0.87	0.63	0.70	0.55	
Control Delay (s/veh)	37.0	63.1	32.6					57.5	9.9	9.8	7.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	2.8	0.2	
Total Delay (s/veh)	37.0	63.1	32.6					57.5	9.9	12.5	7.7	
LOS	D	E	C					E	A	B	A	
Approach Delay (s/veh)		42.9						46.0			9.3	
Approach LOS		D						D			A	
Queue Length 50th (ft)	313	416	273					225	0	27	81	
Queue Length 95th (ft)	389	#657	440					#278	90	m32	m45	
Internal Link Dist (ft)		1060			1321			938			340	
Turn Bay Length (ft)	200		200						350			
Base Capacity (vph)	1283	578	677					1331	581	1063	2720	
Starvation Cap Reductn	0	0	0					0	0	216	495	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.71	0.94	0.79					0.87	0.63	0.87	0.67	

Intersection Summary

Cycle Length: 123

Actuated Cycle Length: 123

Offset: 85 (69%), Referenced to phase 2:NBT and 6:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay (s/veh): 30.7

Intersection LOS: C

Intersection Capacity Utilization 79.3%

ICU Level of Service D

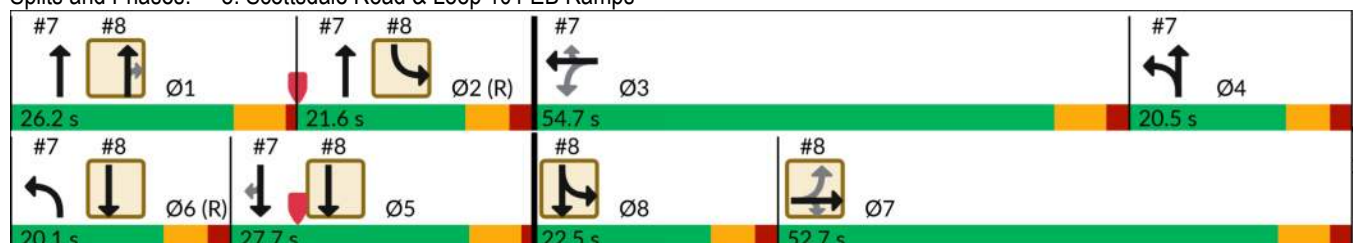
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Scottsdale Road & Loop 101 EB Ramps



8: Scottsdale Road & Loop 101 EB Ramps

12/08/2023

Lane Group	Ø2	Ø3	Ø4	Ø5	Ø6	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	2	3	4	5	6	8
Permitted Phases						
Total Split (s)	21.6	54.7	20.5	27.7	20.1	22.5
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay (s/veh)						
Queue Delay						
Total Delay (s/veh)						
LOS						
Approach Delay (s/veh)						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

9: 73rd Street & Thompson Peak Parkway

12/08/2023

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	172	379	10	0	286	51	0	0	22	0	0	88
Future Vol, veh/h	172	379	10	0	286	51	0	0	22	0	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	280	-	150	-	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	187	412	11	0	311	55	0	0	24	0	0	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	366	0	0	-	-	0	-	-	206	-	-	155
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1189	-	-	0	-	-	0	0	800	0	0	863
Stage 1	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	-	-	-	-	-	800	-	-	863
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.63	0	9.64	9.69
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	800	1189	-	-	-	-	863
HCM Lane V/C Ratio	0.03	0.157	-	-	-	-	0.111
HCM Control Delay (s/veh)	9.6	8.6	-	-	-	-	9.7
HCM Lane LOS	A	A	-	-	-	-	A
HCM 95th %tile Q(veh)	0.1	0.6	-	-	-	-	0.4

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	32	0	0	12	0	0	0	0	0	0	0
Future Vol, veh/h	0	32	0	0	12	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	110	-	160	200	-	-	100	-	100	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	0	0	13	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	35	0	0	41	48	17	30	48	7
Stage 1	-	-	-	-	-	-	35	35	-	13	13	-
Stage 2	-	-	-	-	-	-	7	13	-	17	35	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1604	-	-	1575	-	-	957	843	1057	974	843	1074
Stage 1	-	-	-	-	-	-	977	865	-	1005	884	-
Stage 2	-	-	-	-	-	-	1014	884	-	999	865	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1604	-	-	1575	-	-	957	843	1057	974	843	1074
Mov Cap-2 Maneuver	-	-	-	-	-	-	957	843	-	974	843	-
Stage 1	-	-	-	-	-	-	977	865	-	1005	884	-
Stage 2	-	-	-	-	-	-	1014	884	-	999	865	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			0			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	-	-	1604	-	-	1575	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	0	0	-	-	0	-	-	0	0	0
HCM Lane LOS	A	A	A	A	-	-	A	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-	-	0	-	-	-	-	-

11: Driveway D & Legacy Boulevard

12/08/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	52	0	0	13	0	0
Future Vol, veh/h	52	0	0	13	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	140	250	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	0	0	14	0	0
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	57	0	64	28
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1546	-	935	1040
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1546	-	935	1040
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	1015	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1546	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

12: Loop 101 WB Ramps/Loop 101 WB Frontage Road & Henkel Way

12/08/2023

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑	↑		↑
Traffic Vol, veh/h	0	0	47	3	0	2
Future Vol, veh/h	0	0	47	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	51	3	0	2

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 51
Stage 1	-	- -
Stage 2	-	- -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	- 0 1017
Stage 1	-	- 0 -
Stage 2	-	- 0 -
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	- - 1017
Mov Cap-2 Maneuver	-	- -
Stage 1	-	- -
Stage 2	-	- -

Approach	WB	SB
HCM Control Delay, s/v	0	8.55
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1017
HCM Lane V/C Ratio	-	-	0.002
HCM Control Delay (s/veh)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Appendix J – Signal Warrant Analysis – Legacy Boulevard and 73rd Street

Warrants Summary Report

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

	Major Street	Minor Street
Street Name	Legacy Boulevard	73rd Street
Direction	EB/WB	NB/SB
Number of Lanes	2	1
Approach Speed	45	40

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	11 Hours met (8 required)
Condition A and B Met?	Yes	8 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	12 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	12 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 5, School Crossing		
	No	

Warrant 6, Coordinated Signal System**No****Warrant 7, Crash Experience****No**Traffic Volume Cond.? **Yes** 12 Hours met (8 required)Ped Condition? **No** 0 Hours met (8 required)**Warrant 8, Roadway Network****Yes****Warrant 9, Intersection Near a Grade Crossing****No****AWSC Warrant, Multiway Stop Application****Yes**Condition A Met? **Yes**Condition B Met? **No**Condition C Met? **No**

Warrant 1: Eight-hour Vehicular Volume

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name: Legacy Boulevard
 Major Street Direction: EB/WB
 Minor Street Direction: NB/SB

WARRANT 1 MET? Yes

Details:

Condition A Met? Yes 11 Hours met (8 required) at 70%
 Condition B Met? No 0 Hours met (8 required) at 70%

Hour	Major Street Vehicles (Total of Both Approaches)	High Volume Minor Approach Vehicles	70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
			Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
00:00 to 01:00	28	25	No	No	No	No
Condition A	Volume >= 70% column (420)?	Volume >= 70% column (105)?	No	No	No	No
	Volume >= 56% column (336)?	Volume >= 56% column (84)?	No	No		
Condition B	Volume >= 70% column (630)?	Volume >= 70% column (53)?	No	No	No	No
	Volume >= 56% column (504)?	Volume >= 56% column (42)?	No	No		
01:00 to 02:00	15	17	No	No	No	No
Condition A	Volume >= 70% column (420)?	Volume >= 70% column (105)?	No	No	No	No
	Volume >= 56% column (336)?	Volume >= 56% column (84)?	No	No		
Condition B	Volume >= 70% column (630)?	Volume >= 70% column (53)?	No	No	No	No
	Volume >= 56% column (504)?	Volume >= 56% column (42)?	No	No		
02:00 to 03:00	16	11	No	No	No	No
Condition A	Volume >= 70% column (420)?	Volume >= 70% column (105)?	No	No	No	No
	Volume >= 56% column (336)?	Volume >= 56% column (84)?	No	No		
Condition B	Volume >= 70% column (630)?	Volume >= 70% column (53)?	No	No	No	No
	Volume >= 56% column (504)?	Volume >= 56% column (42)?	No	No		
03:00 to 04:00	20	21	No	No	No	No
Condition A	Volume >= 70% column (420)?	Volume >= 70% column (105)?	No	No	No	No
	Volume >= 56% column (336)?	Volume >= 56% column (84)?	No	No		
Condition B	Volume >= 70% column (630)?	Volume >= 70% column (53)?	No	No	No	No
	Volume >= 56% column (504)?	Volume >= 56% column (42)?	No	No		

04:00 to 05:00		71		53		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	No				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	No				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
05:00 to 06:00		156		82		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	No				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	No				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
06:00 to 07:00		301		178		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
07:00 to 08:00		485		307		Yes*	No	Yes	No
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
08:00 to 09:00		534		401		Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes				
09:00 to 10:00		470		453		Yes*	No	Yes	No
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				

10:00 to 11:00		467		482	Yes*	No	Yes	No
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes			
11:00 to 12:00		508		518	Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes			
12:00 to 13:00		568		494	Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes			
13:00 to 14:00		541		447	Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes			
14:00 to 15:00		571		511	Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes			
15:00 to 16:00		522		507	Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes			
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes			
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes			

16:00 to 17:00		535		530		Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes				
17:00 to 18:00		584		524		Yes*	No	Yes*	Yes*
Condition A	Volume >= 70% column (420)?	Yes		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	Yes		Volume >= 56% column (42)?	Yes				
18:00 to 19:00		410		351		No	No	Yes	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	Yes		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
19:00 to 20:00		322		238		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
20:00 to 21:00		236		175		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				
21:00 to 22:00		180		127		No	No	No	No
Condition A	Volume >= 70% column (420)?	No		Volume >= 70% column (105)?	Yes				
	Volume >= 56% column (336)?	No		Volume >= 56% column (84)?	Yes				
Condition B	Volume >= 70% column (630)?	No		Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (504)?	No		Volume >= 56% column (42)?	Yes				

22:00 to 23:00		127	71	No	No	No	No
Condition A	Volume >= 70% column (420)?	No	Volume >= 70% column (105)?	No			
	Volume >= 56% column (336)?	No	Volume >= 56% column (84)?	No			
Condition B	Volume >= 70% column (630)?	No	Volume >= 70% column (53)?	Yes			
	Volume >= 56% column (504)?	No	Volume >= 56% column (42)?	Yes			

23:00 to 00:00		69	50	No	No	No	No
Condition A	Volume >= 70% column (420)?	No	Volume >= 70% column (105)?	No			
	Volume >= 56% column (336)?	No	Volume >= 56% column (84)?	No			
Condition B	Volume >= 70% column (630)?	No	Volume >= 70% column (53)?	No			
	Volume >= 56% column (504)?	No	Volume >= 56% column (42)?	Yes			

Warrant 2: Four-hour Vehicular Volume

1: Year 2033 Build - Legacy Boulevard and 73rd Street

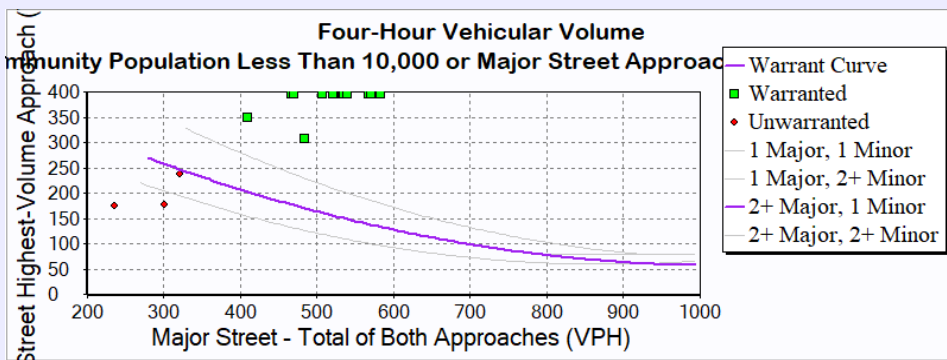
Intersection Information:

	Major Street	Minor Street
Street Name	Legacy Boulevard	73rd Street
Direction	EB/WB	NB/SB
Number of Lanes	2	1
Approach Speed	45	40

Warrant 2 Met? **Yes**

Details:

Notes	12 Hours met (4 required)
Low population?	No



Hourly Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
00:00:00 - 01:00:00	28.00	25.00
01:00:00 - 02:00:00	15.00	17.00
02:00:00 - 03:00:00	16.00	11.00
03:00:00 - 04:00:00	20.00	21.00
04:00:00 - 05:00:00	71.00	53.00
05:00:00 - 06:00:00	156.00	82.00
06:00:00 - 07:00:00	301.00	178.00
07:00:00 - 08:00:00	485.00	307.00
08:00:00 - 09:00:00	534.00	401.00
09:00:00 - 10:00:00	470.00	453.00
10:00:00 - 11:00:00	467.00	482.00
11:00:00 - 12:00:00	508.00	518.00
12:00:00 - 13:00:00	568.00	494.00
13:00:00 - 14:00:00	541.00	447.00
14:00:00 - 15:00:00	571.00	511.00
15:00:00 - 16:00:00	522.00	507.00
16:00:00 - 17:00:00	535.00	530.00
17:00:00 - 18:00:00	584.00	524.00
18:00:00 - 19:00:00	410.00	351.00
19:00:00 - 20:00:00	322.00	238.00
20:00:00 - 21:00:00	236.00	175.00
21:00:00 - 22:00:00	180.00	127.00
22:00:00 - 23:00:00	127.00	71.00
23:00:00 - 00:00:00	69.00	50.00

Warranted Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
07:00:00 - 08:00:00	485.00	307.00
08:00:00 - 09:00:00	534.00	401.00
09:00:00 - 10:00:00	470.00	453.00
10:00:00 - 11:00:00	467.00	482.00
11:00:00 - 12:00:00	508.00	518.00
12:00:00 - 13:00:00	568.00	494.00
13:00:00 - 14:00:00	541.00	447.00
14:00:00 - 15:00:00	571.00	511.00
15:00:00 - 16:00:00	522.00	507.00
16:00:00 - 17:00:00	535.00	530.00
17:00:00 - 18:00:00	584.00	524.00
18:00:00 - 19:00:00	410.00	351.00

Warrant 3: Peak Hour

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

	Major Street	Minor Street
Street Name	Legacy Boulevard	73rd Street
Direction	EB/WB	NB/SB
Number of Lanes	2	1
Approach Speed	45	40

Warrant 3 Met? **Yes**

Details

Low Population? **No**

Condition A Met? **No**

Notes 0 Hours met (1 required)

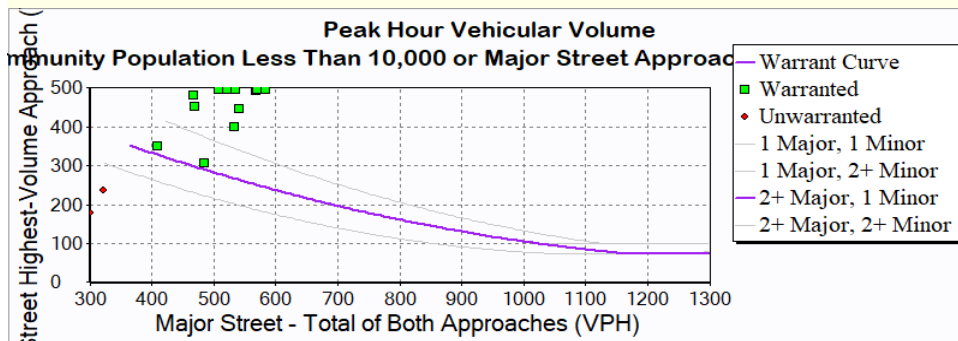
Condition B Met? **Yes**

Notes 12 Hours met (1 required)

Minor Approach Time Delay Condition Met? **Not Met**

Minor Approach Volume Condition Met? **Met**

Total Entering Intersection Volume Condition Met? **Not Met**



Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
0:00	28	25
1:00	15	17
2:00	16	11
3:00	20	21
4:00	71	53
5:00	156	82
6:00	301	178
7:00	485	307
8:00	534	401
9:00	470	453
10:00	467	482
11:00	508	518
12:00	568	494
13:00	541	447
14:00	571	511
15:00	522	507
16:00	535	530
17:00	584	524
18:00	410	351
19:00	322	238
20:00	236	175
21:00	180	127
22:00	127	71
23:00	69	50

Warrant 4: Pedestrian Volume

1: Year 2033 Build - Legacy Boulevard and 73rd Street

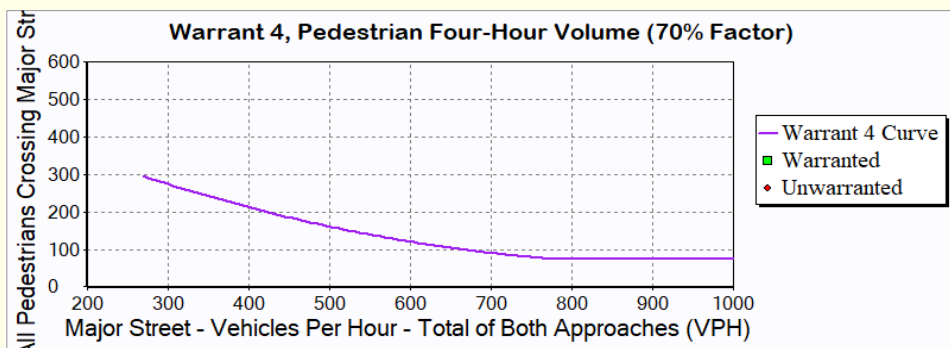
Intersection Information:

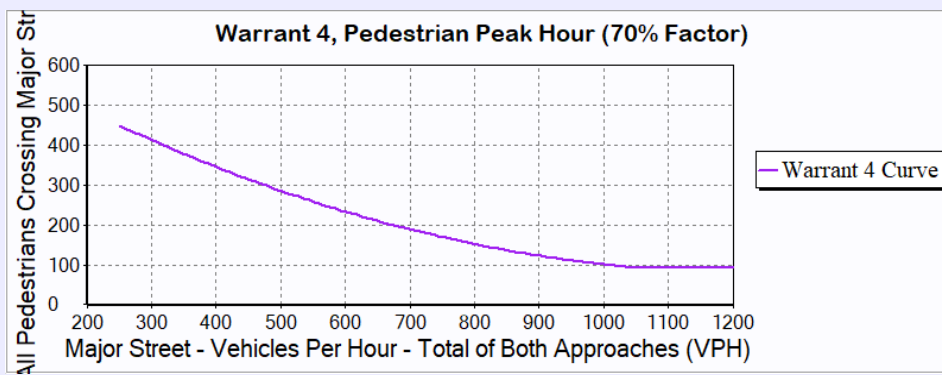
	Major Street	Minor Street
Street Name	Legacy Boulevard	73rd Street
Direction	EB/WB	NB/SB
Number of Lanes	2	1
Approach Speed	45	40

WARRANT 4 MET ? **No**

Details

Pedestrian Four Hour Volume Warrant Met?	No	
Pedestrian Peak Hour Warrant Met?	No	Notes 0 Hours met (4 required)
Speed Limit or 85th Percentile Speed on Major Street > 35mph, or Intersection lies within an Isolated Community with Population < 10,000?	Yes	





Warrant 5: School Crossing

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name Legacy Boulevard

Major Street Direction EB/WB

WARRANT 5 MET? **No**

Details:

Time Period Interval for Students Crossing (min) 0

Number of Students Crossing in Time Period 0

Number of Adequate Gaps in Time Period 0

Other Remedial Measures Attempted? **No**

Adjacent Signal on EB approach? **No**

Distance to signal on EB Approach (ft) -

Adjacent Signal on WB approach? **No**

Distance to signal on WB Approach (ft) -

Will New Signal Restrict Progressive Traffic? **No**

Warrant 6: Coordinated Signal System

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name Legacy Boulevard

Major Street Direction EB/WB

WARRANT 6 MET? **No**

Details:

Approach Direction & Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
SB Approach (73rd Street)	Yes	No	N/A
NB Approach (73rd Street)	Yes	No	N/A
WB Approach (Legacy Boulevard)	Yes	No	N/A
EB Approach (Legacy Boulevard)	Yes	No	N/A

Unacceptable Platooning?
(At least one approach)

No

Distance to Closest Signal
(Must be N/A or > 1000)

N/A

Warrant 7: Crash Experience

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name Legacy Boulevard

Major Street Direction EB/WB

Minor Street Direction NB/SB

WARRANT 7 MET? **No**

Details:

Low Population?	No	Traffic Volume Condition Met?	Yes
Major Street Speed Limit	45		12 Hours Met (8 Required)
Major Street 85th-% tile Speed	0.00	Ped Volume Condition Met?	No
			0 Hours Met (8 Required)
	Qualifying Crashes	0	
	Adequate Alternative Trials?	No	

Hour	Traffic Volumes				Pedestrian Volumes			
	Major Street Vehicles	Minor Street Vehicles	80% Standard Met? A or B		Northbound Ped Volumes		Southbound Ped Volumes	
			Condition A	Condition B	Peds	> 80?	Peds	> 80?
00:00 to 01:00	28	25	No	No	0	No	0	No
01:00 to 02:00	15	17	No	No	0	No	0	No
02:00 to 03:00	16	11	No	No	0	No	0	No
03:00 to 04:00	20	21	No	No	0	No	0	No
04:00 to 05:00	71	53	No	No	0	No	0	No
05:00 to 06:00	156	82	No	No	0	No	0	No
06:00 to 07:00	301	178	No	No	0	No	0	No

07:00 to 08:00	485	307	Yes*	No*	0	No	0	No
08:00 to 09:00	534	401	Yes*	Yes*	0	No	0	No
09:00 to 10:00	470	453	Yes*	No*	0	No	0	No
10:00 to 11:00	467	482	Yes*	No*	0	No	0	No
11:00 to 12:00	508	518	Yes*	Yes*	0	No	0	No
12:00 to 13:00	568	494	Yes*	Yes*	0	No	0	No
13:00 to 14:00	541	447	Yes*	Yes*	0	No	0	No
14:00 to 15:00	571	511	Yes*	Yes*	0	No	0	No
15:00 to 16:00	522	507	Yes*	Yes*	0	No	0	No
16:00 to 17:00	535	530	Yes*	Yes*	0	No	0	No
17:00 to 18:00	584	524	Yes*	Yes*	0	No	0	No
18:00 to 19:00	410	351	Yes*	No*	0	No	0	No
19:00 to 20:00	322	238	No	No	0	No	0	No
20:00 to 21:00	236	175	No	No	0	No	0	No
21:00 to 22:00	180	127	No	No	0	No	0	No
22:00 to 23:00	127	71	No	No	0	No	0	No
23:00 to 00:00	69	50	No	No	0	No	0	No

Warrant 8: Roadway Network

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name	Legacy Boulevard
Major Street Direction	EB/WB
Minor Street Direction	NB/SB

WARRANT 8 MET? (A or B) **Yes**

Details:

Growth Rates % (per year)				
	NB	SB	EB	WB
L	0.00	0.00	0.00	0.00
T	0.00	0.00	0.00	0.00
R	0.00	0.00	0.00	0.00

Condition A, Total Entering Volume		Condition B, Non-normal Business Day		
			Existing	Future
Existing Peak Hour	1,344	Highest Hour	0	0
Years	0.00	Second Highest Hour	0	0
Future Peak Hour	1,344	Third Highest Hour	0	0
Warrant 1 in 5 Years?	No	Fourth Highest Hour	0	0
Warrant 2 in 5 Years?	Yes	Fifth Highest Hour	0	0
Warrant 3 in 5 Years?	Yes	Yearly Growth Rate (%)	0.00	
		Years	0.00	

Condition A Met? **Yes**

Condition B Met? **No**

Warrant 9: Intersection Near a Grade Crossing

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

	Major Street	Minor Street
Street Name	Legacy Boulevard	73rd Street
Direction	EB/WB	NB/SB
Number of Lanes	2	1
Approach Speed	45	40

WARRANT 9 MET ? **No**

Details

Note **No approach with a railroad grade crossing**

Minor street approach having a grade crossing

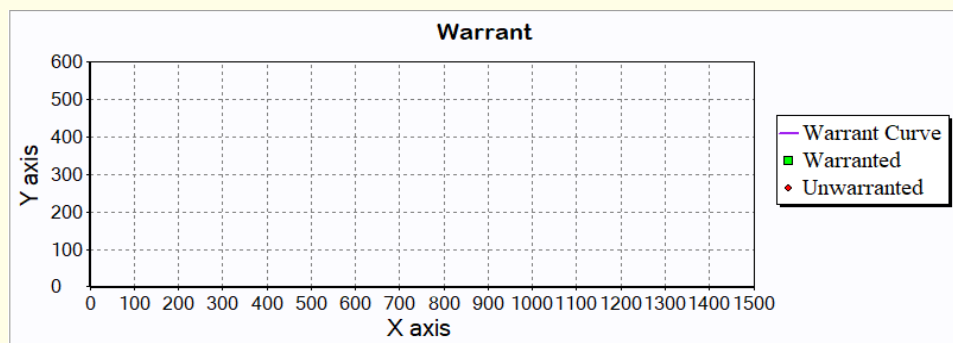
Distance from the center of the track to the stop or yield line Interpolated

Number of occurrences of rail traffic per day Adjustment Factor

Percentage of high-occupancy buses crossing the track (%) Adjustment Factor

Percentage of tractor-trailer trucks crossing the track (%) Adjustment Factor

The rail traffic arrival times are unknown, the highest traffic volume hour of the day is used



Hour	Major Street Total of Both Approaches (vph)	Minor Street Adjusted Volume Crossing Tracks (vph)

All-Way Stop Control Warrant: Multiway Stop Applications

1: Year 2033 Build - Legacy Boulevard and 73rd Street

Intersection Information:

Major Street Name: Legacy Boulevard

Major Street Direction: EB/WB

Minor Street Direction: NB/SB

AWSC WARRANT MET? **Yes**

Details:

Condition A Met?	Yes	Qualifying Crashes	0
Condition B Met?	No	Major Street 85th %-tile Speed	0.00
Condition C Met?	No	Major Street Speed Limit	45

Notes: Delay for highest hour < 30 sec/veh

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street	Minor Street	East Bound Bicycle Volumes	North Bound Bicycle Volumes	East Bound Ped Volumes	North Bound Ped Volumes	Major Street Veh Volume > 300	Avg(Veh + Ped + Bicycle) > 200	Delay > 30
06:00 to 07:00	301	266	0	0	0	0	False	No	No
07:00 to 08:00	485	467	0	0	0	0	False	No	No
08:00 to 09:00	534	564	0	0	0	0	False	No	No
09:00 to 10:00	470	581	0	0	0	0	False	No	No
10:00 to 11:00	467	612	0	0	0	0	False	No	No
11:00 to 12:00	508	694	0	0	0	0	False	No	No
12:00 to 13:00	568	718	0	0	0	0	False	No	No
13:00 to 14:00	541	631	0	0	0	0	False	No	No
14:00 to 15:00	571	650	0	0	0	0	False	No	No
15:00 to 16:00	522	651	0	0	0	0	False	No	No
16:00 to 17:00	535	736	0	0	0	0	False	No	No
17:00 to 18:00	584	760	0	0	0	0	False	No	No
18:00 to 19:00	410	500	0	0	0	0	False	No	No
19:00 to 20:00	322	384	0	0	0	0	False	No	No