1.0 INTRODUCTION

1.1 FOREWORD

In November of 2001, the voters of the City of Glendale passed a one-half-cent sales tax to fund a variety of transportation projects throughout the city. The plan for improvements was developed as part of the City of Glendale Transportation Plan and included in the Transportation Element of the General Plan which was approved by the voters of Glendale. This plan was developed with the assistance of a 61-member committee appointed by the City Council with representation from throughout Glendale. The committee was referred to as the Citizens Advisory Committee for Transportation Issues, or CACTI. The tax is to continue indefinitely and is projected to generate $600 million in revenue by 2025. A large number of projects are expected to be constructed in the first few years to "catch up" with the explosive growth that occurred in the 1990's that propelled Glendale to be the fourth largest city in Arizona with a population in excess of 242,000.

Northern Parkway is one of these longer-term needs that the city plans to implement over the next 10 to 20 years. Northern Avenue improvements were first suggested by members of CACTI during the development of the plan. Members of CACTI were concerned that the existing planned freeway and arterial system would not meet the needs of increased east/west travel across the West Valley. The Paradise Parkway, proposed as part of the original regional freeway program in 1985, was dropped from the program due to funding constraints and adverse impacts to existing developed areas. CACTI members suggested improvements to an appropriate east/west arterial corridor in Glendale which could result in a "parkway" with wider setbacks, more non-vehicular amenities, additional carrying capacity, and a higher degree of access control. The result of this planning issue became the Northern Parkway, which is planned to be developed as a high-capacity arterial street. This report provides documentation of the development of the concept for this parkway.

A Design Concept Report (DCR) was prepared for the Northern Parkway and published in October 2003. This concept was developed through a multi-agency task force including representatives from Glendale, Peoria, El Mirage, Maricopa County Department of Transportation (MCDOT), Flood Control District of Maricopa County (FCDMC), Arizona Department of Transportation (ADOT), Maricopa Association of Governments (MAG), and Luke Air Force Base (AFB). The concept was developed based upon the initial idea of a "super street" which would have grade-separated intersections (GSI) at the major cross streets and traffic signals at some minor streets.

The Northern Parkway concept was included in the Regional Transportation Plan (RTP) adopted by MAG in November 2003. This plan became the basis for Proposition 400 passed by a county-

wide vote in Maricopa County in November 2004. Approval of this ballot measure extends the county-wide one-half-cent sales tax for another 20 years. Together with state and federal highway trust funds plus a 30 percent local match, funds for the parkway appear to be available.

In November 2005, the voters of Peoria passed a measure to increase the city sales tax by one-third-cent to provide funds for selected projects including the Northern Parkway.

The Northern Parkway is also included in the Adopted Maricopa County Major Streets and Routes Plan, Revised September 2004. It is shown as an "enhanced arterial (Future)" on Map 8 of county document. MCDOT has allocated $12 million over the next 5 years in the 2008-2012 Transportation Improvement Program.

This current DCR is a major update to the one prepared in 2003. The earlier DCR was prepared with input from public meetings held February 12, 2003 and July 10, 2003. The current effort began after the approval of Proposition 400 and involved the same stakeholders as before. A management committee comprised of high-level staff from Glendale, Peoria, Maricopa County and El Mirage and other stakeholders met every month and directed the process that led to this document. Technical representatives from the stakeholder agencies also met monthly to coordinate work and provide technical support to the management committee. An agency scoping meeting was conducted in February of 2005 and a public scoping meeting followed on June 1, 2005. A community open house was held on December 8, 2005 to obtain public comments and special neighborhood meetings were held between November 2005 and March 2006.

1.2 PROJECT LOCATION AND SETTING

Northern Avenue is one of the many east-west section-line arterials that cross the once agricultural Salt River Valley. Northern Avenue lies near the geographic center of the existing urbanized area comprised of Phoenix, Scottsdale, Glendale, and several West Valley cities and towns. Northern Avenue extends from SR 51 in Phoenix westward to Perryville Road, a distance of 24.5 miles. In the central portion of the urban area, Northern Avenue lies 6 miles north of I-10 and 8 miles south of SR 101L/Agua Fria Freeway (Loop 101). Figure 1-1 illustrates the geographic setting of the project.

The portion of Northern Avenue addressed in this study report is the 12.5 miles from SR 303L/Estrella Freeway (Loop 303) on the west to US 60 (Grand Avenue) on the east. East of Grand Avenue, Northern Avenue is a fully developed five-lane urban arterial with extensive residential and commercial development abutting the roadway. West of SR 303L, Northern Avenue is a rural two-lane roadway serving large lot residential development. Figure 1-2 illustrates the project limits and general corridor area.

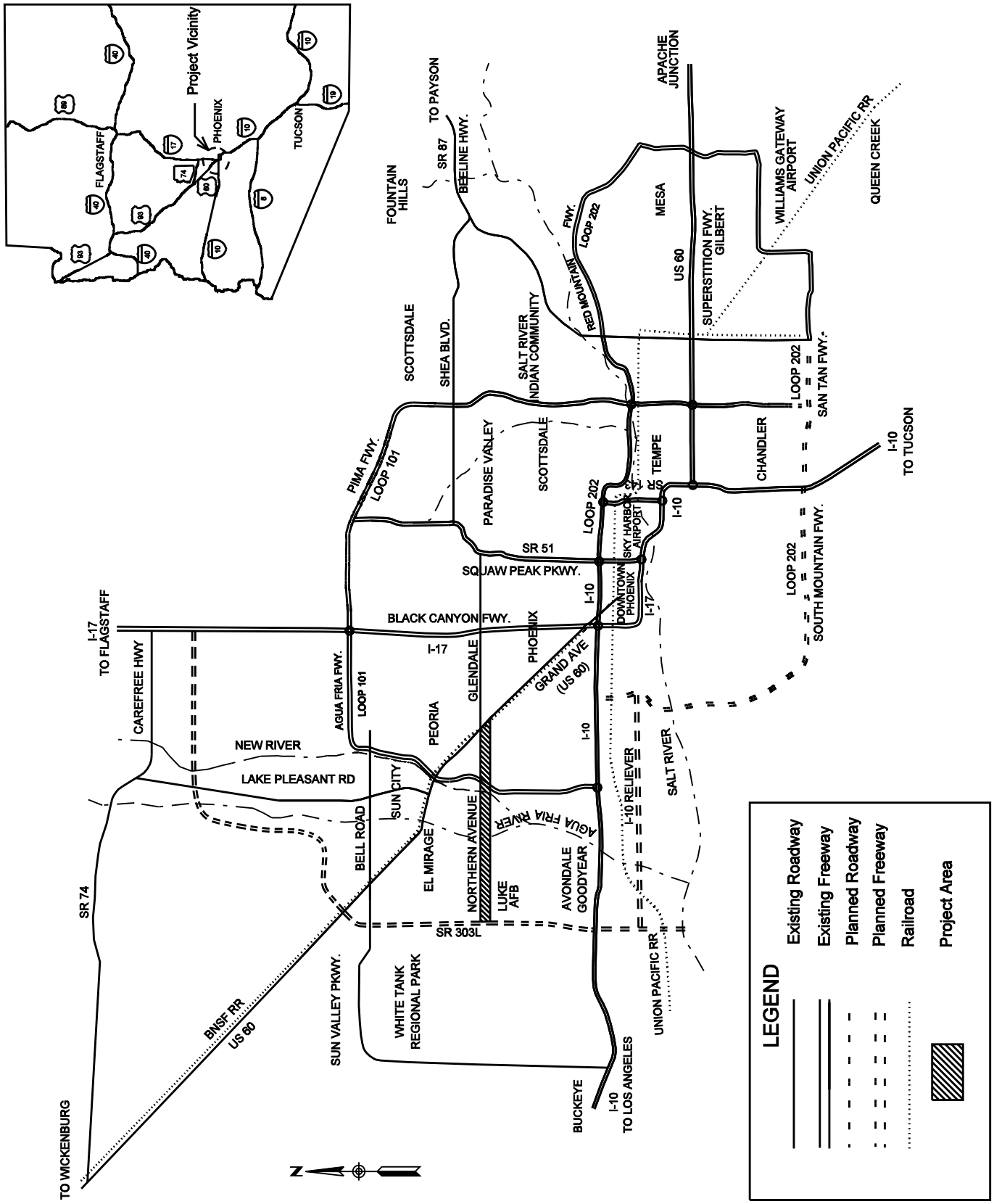

FIGURE 1-1
PROJECT VICINITY MAP

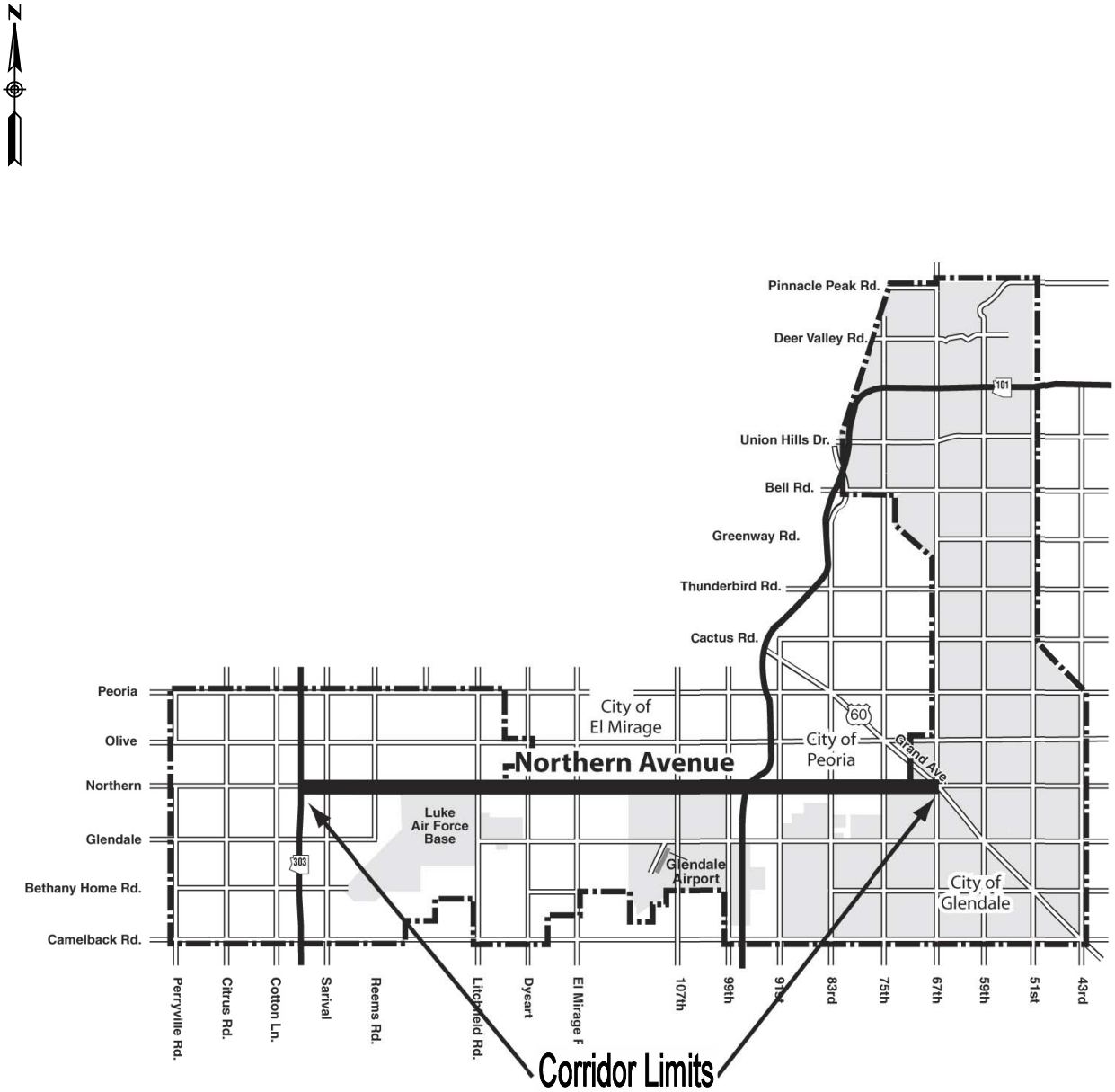

FIGURE 1-2
PROJECT LIMITS

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From 71st Avenue westward to approximately 115th Avenue, Northern Avenue is the boundary between the cities of Glendale and Peoria. From 115th Avenue to west of Dysart Road (2 miles), Northern Avenue is the boundary between the cities of Glendale and El Mirage. Between Litchfield Road and Reems Road, Luke AFB borders Northern Avenue on the south and the Falcon Dunes Golf Course (affiliated with Luke AFB) is on the north. Luke AFB is within the City of Glendale. The Glendale Municipal Planning Area encompasses the largely unincorporated area bounded by Peoria Avenue on the north, Camelback Road on the south, Perryville Road on the west, and the City of El Mirage and the Agua Fria River on the east.

1.3 PURPOSE AND NEED FOR PROJECT

1.3.1 Need for the Project

The Glendale CACTI and the Northern Parkway Management Committee identified the following needs for the new facility. This project is needed to serve population growth, improve travel time, provide regional connectivity, improve regional facility spacing, provide a crossing at the Agua Fria River, improve east-west traffic flow, implement regional plans, and reduce accident rates.

1.3.2 Serve Population Growth

According to MAG, the area west of the Agua Fria River in the West Valley is one of the fastest-growing parts of the Phoenix metropolitan area. Rapid population growth due to land development is occurring in this area and is expected to continue. Population within the entire study area, as detailed in Table 1-1, is expected to grow from about 616,000 residents in 2004 to over 954,000 residents by 2030, an increase of nearly 55 percent. The western portion of the study area, along the SR 303L as shown in Figure 1-3, is expected to have the most growth with increases of 200 percent and more. It is unlikely that the existing limited regional and arterial road network consisting of two-lane farm roads can adequately serve the future growth in the West Valley, resulting in traffic congestion from population growth.

Figure 1-3 Population Growth

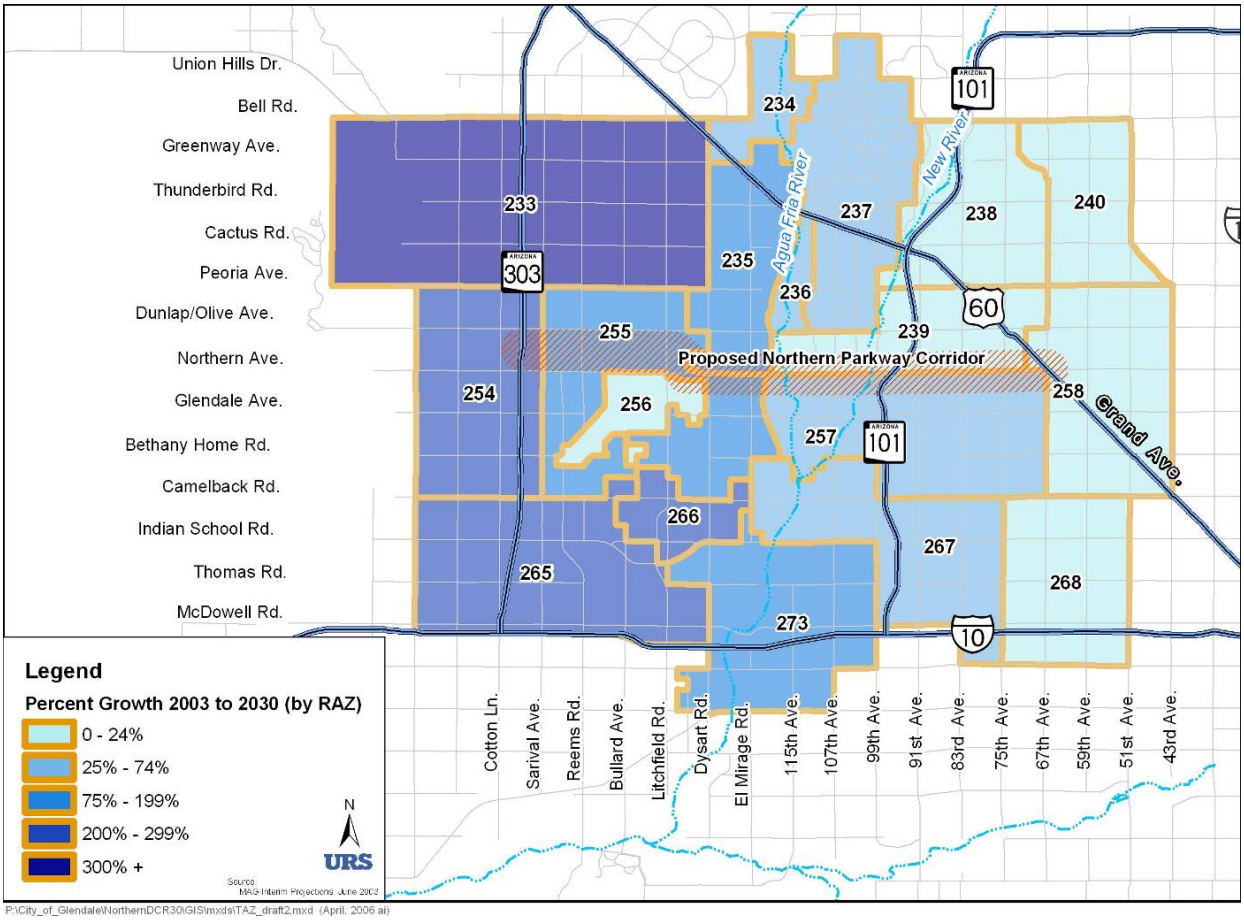


Table 1-1 Population Growth

Community	RAZ	Year 2004		Year 2010		Year 2020		Year 2030	
		Population	Employ-ment	Population	Employ-ment	Population	Employ-ment	Population	Employ-ment
Surprise	**233**	31,353	2,892	60,188	15,395	104,774	21,609	144,905	47,169
	234	10,029	2,845	10,210	2,204	13,025	2,557	13,143	2,357
Subtotal		**41,382**	**5,737**	**70,398**	**17,599**	**117,799**	**24,166**	**158,048**	**49,526**
El Mirage	**235**	**28,309**	**2,300**	**29,685**	**4,541**	**31,202**	**9,168**	**33,074**	**23,560**
Youngtown	**236**	**4,089**	**1,200**	**5,216**	**1,698**	**5,943**	**1,623**	**6,186**	**1,679**
Maricopa County	**237**	**38,863**	**13,596**	**40,297**	**13,248**	**40,594**	**13,471**	**40,602**	**13,438**
Peoria	**238**	52,994	16,397	55,571	18,782	56,547	22,406	56,688	22,254
	239	33,249	8,429	40,636	16,225	41,062	19,712	41,244	22,579
Subtotal		**86,243**	**24,826**	**96,207**	**35,007**	**97,609**	**42,118**	**97,932**	**44,833**
Glendale	**240**	44,608	20,608	45,386	23,737	46,004	24,604	46,267	24,583
	254	3,777	417	15,982	9,194	21,669	13,939	21,784	2,357
	255	10,594	1,525	9,255	3,269	14,623	7,477	16,310	10,106
	256	3,872	10,419	3,186	9,963	3,201	10,001	3,215	10,001
	257	39,684	8,158	56,631	28,830	59,520	40,949	59,823	66,471
	258	98,630	30,261	103,503	32,148	104,974	36,239	105,589	37,529
Subtotal		**201,165**	**71,388**	**233,943**	**107,141**	**249,991**	**133,209**	**252,988**	**151,047**
Goodyear	**265**	**12,875**	**7,962**	**14,370**	**9,893**	**29,643**	**21,521**	**37,940**	**29,652**
Litchfield Park	**266**	**7,675**	**1,200**	**7,014**	**3,612**	**13,647**	**4,621**	**14,166**	**4,263**
Phoenix	**267**	63,023	8,425	75,199	18,452	82,172	32,674	82,926	55,413
	268	92,207	15,934	95,037	25,552	98,482	29,933	99,422	34,551
Subtotal		**155,230**	**24,359**	**191,620**	**57,509**	**223,944**	**88,749**	**234,454**	**123,879**
Avondale	**273**	**40,226**	**7,253**	**48,629**	**13,694**	**62,032**	**36,350**	**79,424**	**44,398**
	Total	**616,057**	**159,821**	**737,379**	**263,942**	**872,404**	**374,996**	**954,814**	**486,275**

Source: Maricopa Association of Governments Interim Projections, June 2003 and 2004 socioeconomic data

A good transportation system is important to create economic vitality for local, regional, state, and national economies. With such population and employment projections, there would be a need to provide regional transportation facilities to help attract quality development that would support the regional, state, and national tax base used to provide public services.

1.3.3 Improve Travel Time

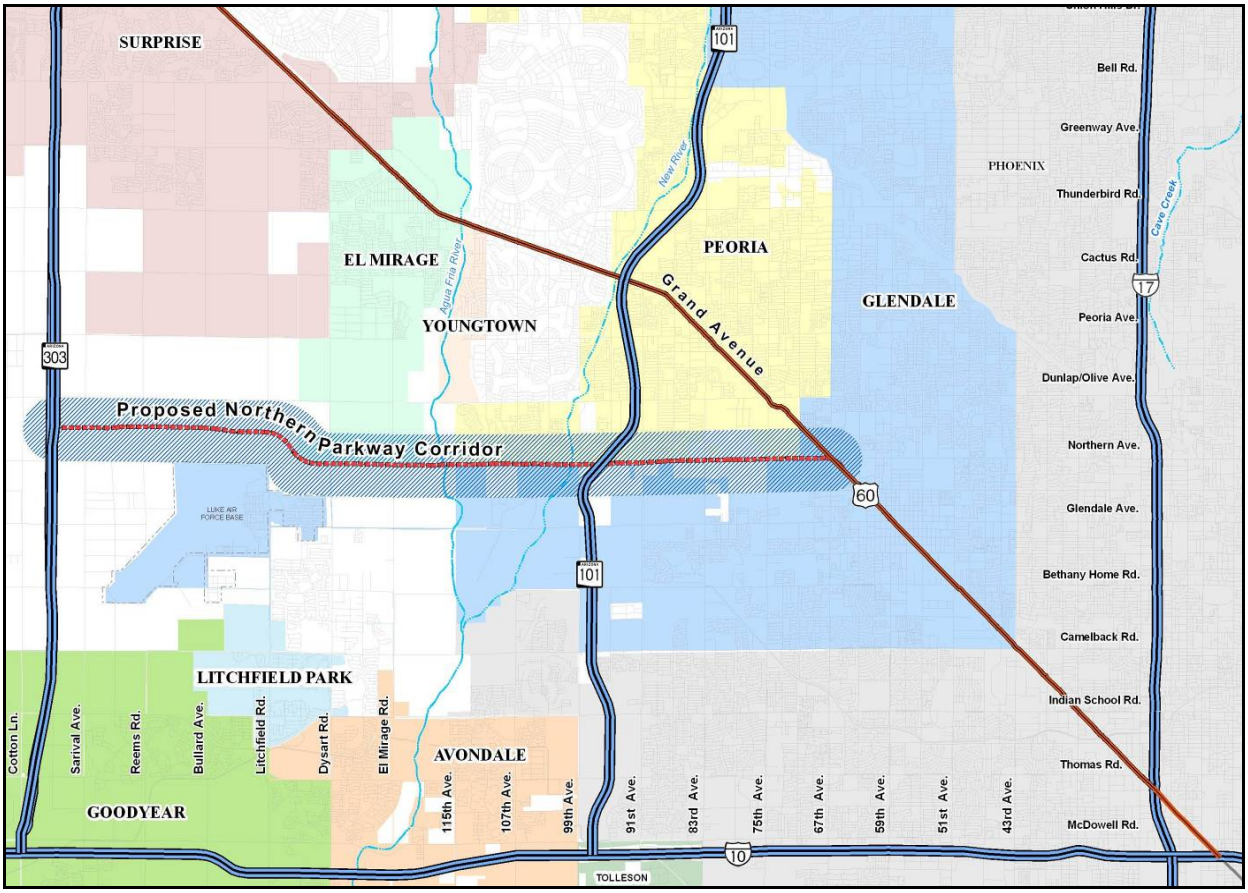
The regional north-south highways of SR 303L and US 60 are 12.5 miles apart along the Northern Avenue corridor. If no roadway improvements were made, with no access control and existing signals remaining, in 2030, the average speed along the project corridor would be 19.3 mph and would take motorists 42 minutes during peak hours to travel from SR 303L to US 60. The travel time needs improving to accommodate population projections.

1.3.4 Provide Regional Connectivity

Due to population growth projections, a high-capacity east-west corridor will be needed to connect with major routes, thereby providing a continuous high-capacity, higher-speed system that offers better access throughout the entire region. Currently, SR 303L and SR 101L provide

for north-south travel in the West Valley while US 60 is a diagonal route providing connection to destinations in the northwest valley (see Figure 1-4). Without regional connectivity to those state routes, congestion would occur on Northern Avenue at SR303L, SR 101L, and US 60, and the arterial street system in the overall area would become congested.

Figure 1-4 Regional Connectivity



1.3.5 Improve Regional Facility Spacing

Regional facility spacing improvements are needed to improve traffic flow based on future population growth. One of the benefits of well-spaced regional high-capacity routes within the study area would be reduced traffic on parallel arterials so those roads can serve their dual function of providing access to major land uses and serve moderate vehicle commutes (4 to 5 miles long). The Transportation Research Board (Circular E-C019) suggests freeway spacing of 4 to 6 miles in urban areas while MAG suggests 3- to 6-mile spacing for regional roads.

1.3.6 Provide Agua Fria River Crossing

Northern Avenue currently has an unbridged crossing at the Agua Fria River. This presents a major obstruction to traffic movement during times of rain or flood when this section of roadway must be closed. During the last five years, there have been five closures averaging 2.8 days per closure, according to MCDOT maintenance staff. Closures are problematic because emergency vehicle response time may be delayed.

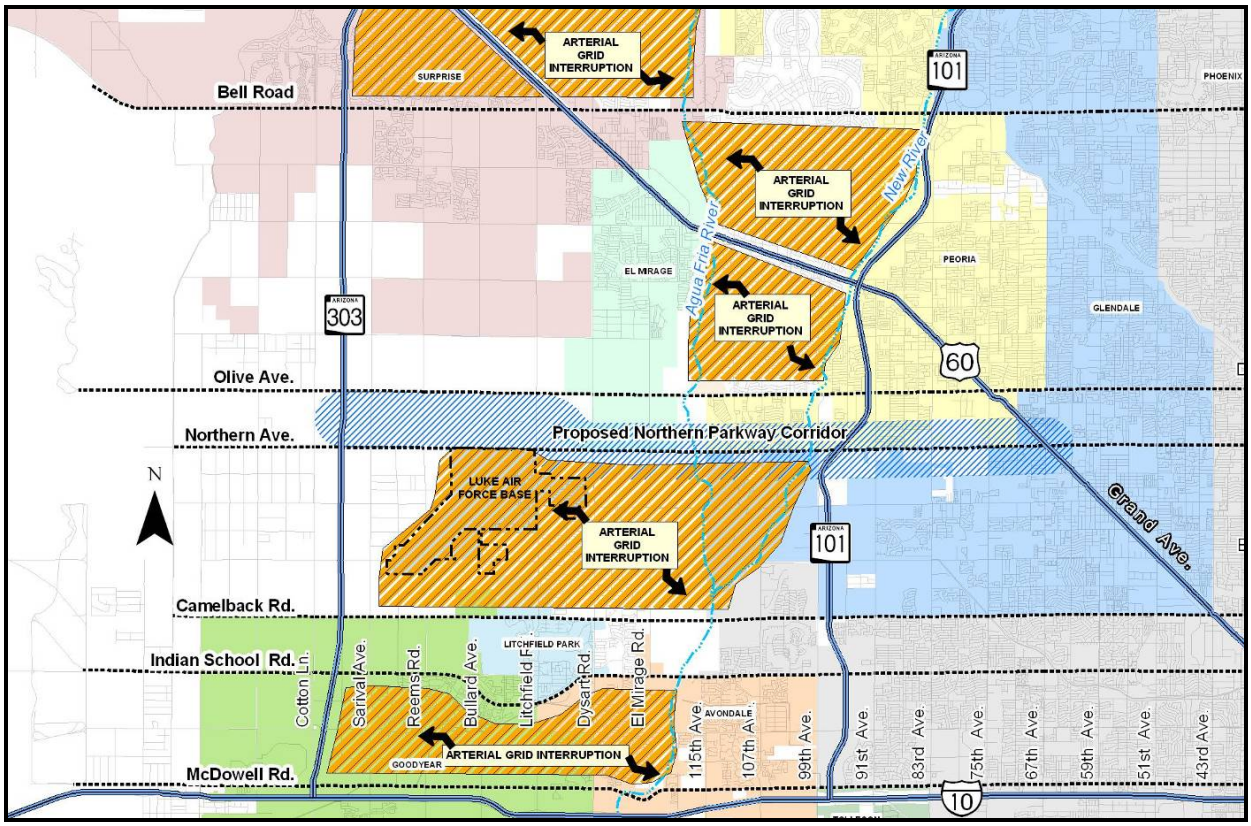
In the 12 miles between I-10 and Bell Road, there are eight bridges, including the bridge at I-10 and Bell Road. With the large population increase expected west of the Agua Fria River, additional bridge crossings are needed to ensure safe, reliable access at all times. When Northern Avenue is closed due to flooding, eastbound and westbound traffic must be diverted one mile north to Olive Avenue or one mile south to Glendale Avenue. These arterial streets would become gridlocked during closure of Northern Avenue at the Agua Fria River based on projected 2030 traffic volumes.

1.3.7 Improve East-West Street Traffic Flow

In the 12 miles between I-10 and Bell Road, there are only five arterials that are continuous between Loop 303 and Grand Avenue: McDowell Road, Indian School Road, Camelback Road, Northern Avenue, and Olive Avenue (see Figure 1-5). This limits the east-west traffic capacity in the region. Consequently, traffic on these arterials, and especially Bell Road, experiences a high degree of congestion and delay during peak travel times. A higher capacity road is needed to supplement this limited arterial network, to serve both current and future travel demand.

A free flow east-west route that can accommodate a large amount of traffic is needed to compensate for the limited street network. In the 12 miles between I-10 and Bell Road, there are only five east-west arterials that are continuous between SR 303L and US 60: (1) McDowell Road, (2) Indian School Road, (3) Camelback Road, (4) Northern Avenue, and (5) Olive Avenue. Luke AFB, Agua Fria River, New River, and Sun City are barriers to east-west travel in the area (see Figure 1-5). As a result, there are limited continuous routes in the region and limited opportunities to travel on continuous streets resulting in traffic congestions on the few continuous roads.

Figure 1-5 Disconnected System



1.3.8 Implement Regional Plan

Various regional plans have been prepared to meet the needs of improving traffic flow in the West Valley, which need an opportunity (e.g., new facility) for implementation. These plans include the following:

- A major roadway corridor along Northern Avenue is included in the adopted General Plan of the City of Glendale. As the basis for approving a one-half-cent sales tax, the Glendale Transportation Study (2001) was submitted to the voters of Glendale in 2001 and was approved, thus providing local funding for the project as well as other projects defined in the program.
- The voters in Peoria approved a sales tax issue in November 2005 to help fund the project and other projects in Peoria.
- The new facility is included in the Maricopa County Major Streets and Routes Plan.
- The new facility is also included in the comprehensive performance-based RTP prepared by MAG. Northern Avenue is shown in the RTP as a "new/improved arterial" that would provide major capacity improvements and new connections for the regional arterial street

network. The RTP (MAG 2004) provides a vision for the regional transportation system, addressing freeways and other highways, streets, transit, airports, bicycle and pedestrian facilities, freight, demand management, system management (including intelligent transportation systems), and safety in Maricopa County through fiscal year 2026. The RTP is the result of a major planning effort initiated in 2001 and completed in late 2003, when it received unanimous support from the Transportation Policy Committee and approval from the MAG Regional Council. The RTP—including the proposed project—is funded through Proposition 400, which was approved by Maricopa County voters in November 2004.

1.3.9 Reduce Accident Rates

Based on projected population growth, accident rates could be problematic if there are no improvements to the current transportation system. Typical arterials with frequent points of access, traffic signals placed 0.25 to 0.5 mile apart, and two-way left-turn lanes typically have high rates of car crashes and collisions. Table 1-2 shows the positive correlation between the number of signals and crash rates. Basically, the more signals in place, the more accidents will occur on a typical arterial. If there are less than 2 signals per mile, the number of crashes per million vehicle miles traveled (VMT) is around 3. If there are more than 6 signals per mile, the number of crashes triples.

Table 1-2 Signal Spacing and Crash Rates

Signals per Mile	Crashes per Million VMT
Under 2	3.53
2 to 4	6.89
4 to 6	7.49
6 +	9.11

Source: "Benefits of Access Management," FHWA Document Number FHWA-OP-03-066

1.4 CHARACTERISTICS OF THE CORRIDOR

1.4.1 Jurisdictional Boundaries

The general corridor area including the jurisdictional boundaries is shown in Figure 1-4. The proposed project abuts the cities of Glendale, Peoria, and El Mirage and passes through considerable unincorporated Maricopa County. The existing Northern Avenue is on the southern boundary of Peoria and El Mirage and therefore, by regional agreement, the roadway is the responsibility of those cities along their boundaries.

Neighborhoods surrounding the corridor are served by several school districts. The Glendale Elementary School District and Glendale Union High School District serve areas east of 83rd Avenue and south of Northern Avenue and east of 71st Avenue on both sides of Northern Avenue. The Peoria Unified School District serves the area north of Northern Avenue west of 71st Avenue, and both sides of Northern Avenue west of 83rd Avenue to 115th Avenue. The Dysart Unified District serves areas on both sides of Northern Avenue from 115th Avenue to the 151st Avenue alignment, where the Agua Fria School District assumes service to the areas south of Northern Avenue, while the Dysart District continues to service areas north of the roadway.

1.4.2 Existing Land Uses

Grand Avenue to 83rd Avenue

Figure 1-6 provides a more detailed view of the existing land uses along the Northern Avenue project corridor. The eastern end of the corridor between Grand Avenue and 83rd Avenue is primarily industrial uses with some agricultural uses mixed in. Major industries include the Salt River Project (SRP) Agua Fria Generating Station, Eaton Industrial Park, Rovey Dairy, Holly Asphalt, Smurfit-Stone Corporation – Container Division, KBI Lumber, and Alliance Lumber.

83rd Avenue to Loop 101

There are several neighborhoods on the north side of Northern Avenue between 87th and 91st avenues including Summersett Village and Meadowood. There are several single-family homes on large lots along the south side of Northern Avenue between 79th and 87th avenues. Rovey Farms Estates has been developed within the last three years, and it lies south of Northern and between 87th Avenue and 89th Avenue. The Peoria Crossing power center occupies the area north of Northern Avenue between 91st Avenue and SR 101L while south of Northern is still being farmed in this section of Northern.

The Jobing.com Arena (Phoenix Coyotes hockey) has been constructed south of Glendale Avenue and east of Loop 101. The Westgate commercial area associated with the arena is under development. Cabelas Sporting Goods has just been completed just north of Glendale Avenue and across from Westgate. The University of Phoenix Stadium (Arizona Cardinals football) has recently been completed just south of the arena. There are large parcels of undeveloped land just to the north of Glendale Avenue and extending to Northern Avenue on both sides of Loop 101. Anchored by the arena and stadium, and having good access to Loop 101, this large area is poised to be developed into intense urban uses. It is anticipated that traffic generated by the arena, stadium, and surrounding commercial areas will use Northern Parkway, 99th Avenue, future 93rd/95th Avenue, and 91st Avenue as routes to events in this area.

Existing Land Use Map

Northern Parkway

Figure 1-6

Legend

- Residential
- Commercial
- Industrial
- Landfill
- Public or Quasi-Public
- School/ Educational
- Transportation
- Military
- Parks/Recreation
- River Bed/Wash
- Agriculture
- Vacant/Undeveloped
- 1-Mile-Wide Corridor (Study Area)
- Preliminary Northern Parkway Alignment
- Township and Range Line
- Section Line

Source:
URS Corporation 2000-2002
Maricopa County Department of Transportation, 2001
Kenney Aerial Mapping Inc., 2001
Federal Emergency Management Agency Q3 Data, 1998

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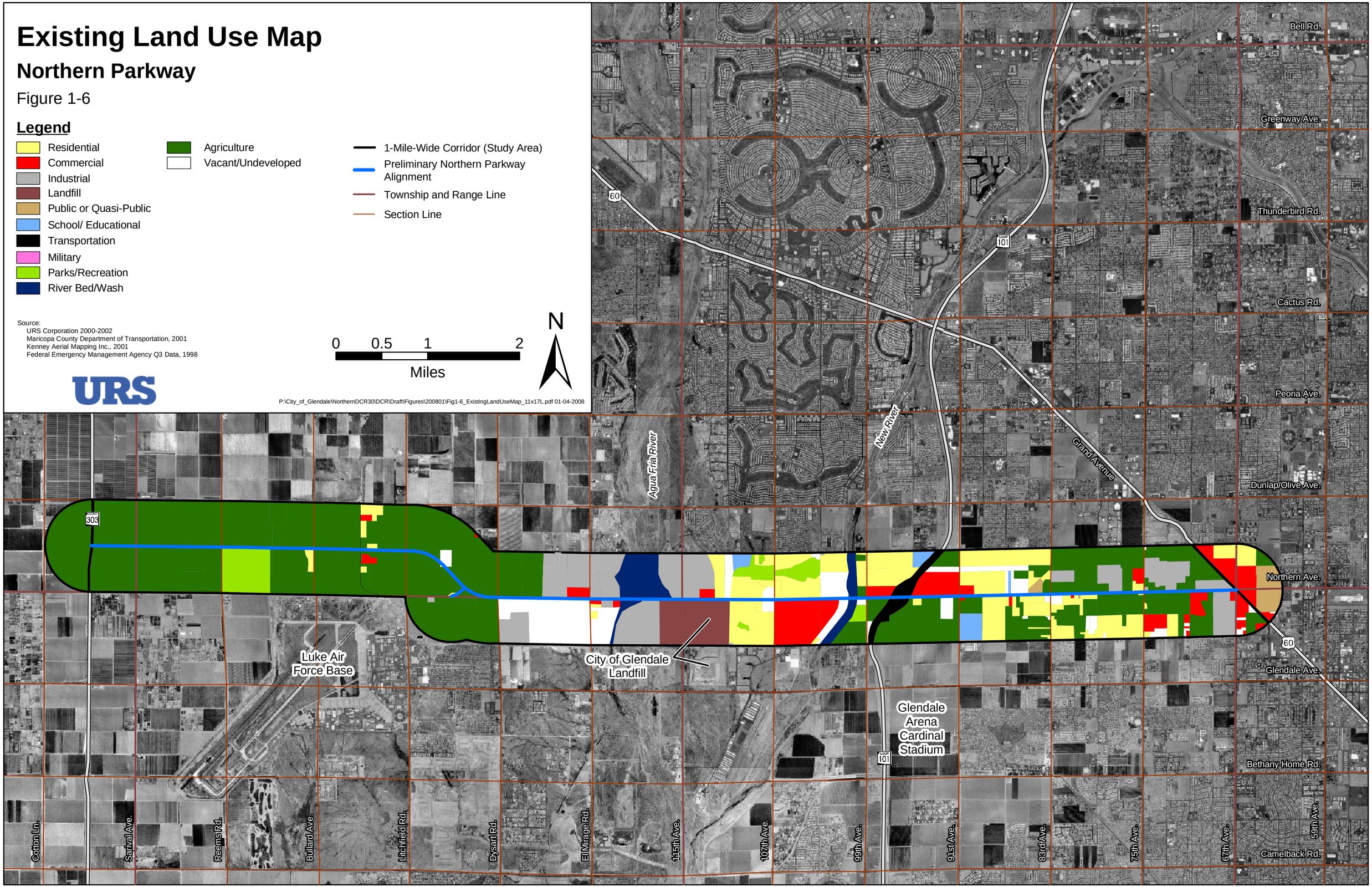

Loop 101 to Agua Fria River

Between SR 101L and 99th Avenue, Parke West, a new commercial shopping area, is under development on the north side of Northern Avenue. Near New River there is some large acre residential to the north, and newly developed residential subdivisions also north of Northern and Parke West. Between New River and Agua Fria River, there are substantial residential subdivisions on both sides of Northern Avenue interspersed with undeveloped parcels. The subdivisions include Country Meadows Unit 4, Country Meadows Townhouses, Country Meadows Estates, Suncliff Units 4 and 5, Country Meadows Units 9 and 10 and Country Meadows Condos Unit 2. The Glen Harbor industrial park is on the south side of Northern Avenue between 107th Avenue and 103rd Avenue. A Coca Cola Bottling Plant has recently been completed in this park west of Glen Harbor Boulevard. West of the residential areas, Glendale has a landfill on the south side of Northern Avenue.

The area near the Agua Fria River is used mostly for sand and gravel mining. These mining operations change the landscape considerably in this area.

West of Agua Fria River

West of the Agua Fria River, the corridor is mostly agriculture with the following exceptions. There is a large RV and mini storage operation on the northwest corner of Northern Avenue and El Mirage Road. West of the storage facility, Hansen Pipe has recently completed a major fabricating facility north of Northern and approximately midway between El Mirage Road and Dysart Road. An area of large lot residential sites is located 0.25-mile to 0.5-mile west of Litchfield Road. These homes are accessed by 143rd Avenue from Olive Avenue.

Luke AFB is on the south side of Northern Avenue between Litchfield Road and 0.5 mile east of Reems Road; and the Falcon Dunes Golf Course (associated with Luke AFB) occupies one-quarter of a section on the north side of Northern Avenue east of Reems Road. Luke AFB is a major traffic generator in the area with 9,200 employees.

The World Wildlife Park is on the south side of Northern Avenue near SR 303L. There are plans to expand the wildlife park to the east and create the main entrance and parking area near Northern Avenue and Sarival Avenue.

1.4.3 Planned New Development

There are approximately 15 development projects being planned along Northern Parkway as summarized in Table 1-3.

Table 1-3 Planned New Development

Description	Location
Equipment Rental Facility	E of 70th Avenue, south side
Prevention Pest Control Facility	SE corner of 71st Avenue
Northern Gateway Commerce Park	SW corner of 71st Avenue
Northern Oaks Commerce Center	SE corner of 73rd Avenue
Residential/Commercial	SE corner of 83rd Avenue
Commercial	NE corner of 87th Avenue
Residential	SE corner of 87th Avenue
Glendale Self Storage	W of New River, south side
Office/Retail	SE corner of 103rd Avenue
Office/Retail	SW corner of 103rd Avenue
Calabria (mixed-use)	S side from Dysart to El Mirage Road
Employment	SW corner of Dysart Road
Woolf Industrial Park	Reems Road to 143rd Avenue, both sides
Woolf Crossing (residential)	Sarival to 0.25-mile west of Reems, both sides
Woolf Crossing (commercial)	Loop 303 to Sarival, both sides

Woolf Crossing is planned west of Reems Road to Loop 303 and straddles the recommended Northern Parkway alignment along the Butler Drive mid-section line. This development has been recently annexed by the City of Glendale.

1.4.4 Existing Roadway Characteristics

Northern Avenue from Loop 303 to west of 112th Avenue is a two-lane rural roadway with traffic signals at Loop 303, Litchfield Road and Dysart Road. At 112th Avenue, the road has been widened on the north side as part of subdivision improvements. From 111th Avenue to 103rd Avenue, Northern Avenue is a five-lane urban section including a continuous left-turn lane. A traffic signal at 107th Avenue has recently been competed. Between 103rd Avenue and Loop 101, Northern Avenue is a four-lane section. At Loop 101, Northern Avenue is widened as part of the Loop 101 improvements to include two through lanes and a left-turn lane in each direction. Traffic signals are located at the Loop 101 ramps and Northern Avenue. East of Loop 101, Northern Avenue is a five-lane urban section as a result of a MCDOT roadway improvement project completed in 2000. Traffic signals are located at 93rd Avenue, 91st Avenue, 83rd Avenue, 75th Avenue, and at Grand Avenue.

1.4.5 Planned Functional Classifications

The Glendale Transportation Plan designates Northern Avenue as a super street west of Grand Avenue, with six through lanes and a planned right-of-way of 130 feet. Peoria's General Plan designates Northern Avenue as an arterial roadway with up to six lanes and a right-of-way width of 130 feet. El Mirage's General Plan designates Northern Avenue as a major arterial. MCDOT classifies Northern Avenue as an Enhanced Arterial which they define as a roadway that operates between an expressway and a principal arterial. It would have six lanes and 130 feet of right-of-way.

The functional classification for north/south roadways intersecting the proposed Northern Parkway were identified from the General Plans for Glendale, Peoria, and MCDOT. The Findings are presented in Table 1-4.

Table 1-4 Intersecting Street Functional Classifications

Street	Glendale	Peoria	MCDOT
Sarival Avenue	Arterial	–	Minor Arterial
Reems Road	Arterial	–	Minor Arterial
Litchfield Road	Major Arterial	–	Principal Arterial
Dysart Road	Major Arterial	–	Principal Arterial
El Mirage Road N	–	–	Principal Arterial
El Mirage Road S	Arterial	–	Minor Arterial
115th Avenue	–	Collector	Minor Arterial
107th Avenue N	–	Minor Arterial	Minor Arterial
103rd Avenue N	-	Collector	-
103rd Avenue S	Arterial	–	Minor Arterial
99th Avenue N	–	Minor Arterial	Principal Arterial
99th Avenue S	Major Arterial	–	Principal Arterial
91st Avenue N	–	Major Arterial	Principal Arterial
91st Avenue S	Major Arterial	–	Principal Arterial
83rd Avenue N	–	Major Arterial	Principal Arterial
83rd Avenue S	Major Arterial	–	Principal Arterial
75th Avenue N	–	Major Arterial	Principal Arterial
75th Avenue S	Arterial	–	Principal Arterial

1.4.6 Related Planned Road Improvements

There are several improvements that are under way or in the planning process that closely relate to the proposed Northern Parkway. The principal projects are described below and represent the status of the projects as of October 2007.

Grand Avenue: In the past four years, eight grade separations have been constructed along Grand Avenue between Loop 101 and I-17. Near Northern the projects include a grade separation for 67th Avenue over Northern/Grand/Burlington Northern Santa Fe (BNSF) Railroad,

a grade separation for Olive over 75th/Grand/BNSF Railroad, and Grand underpass at Glendale Avenue/59th Avenue.

The other projects along Grand Avenue will upgrade Grand to a limited expressway status. Grand Avenue already has a higher degree of access control due to the presence of the BNSF Railroad adjacent to the roadway. The City of Glendale developed a separate DCR in 2003 to further upgrade, and provide access control and beautification of Grand Avenue. The result will be an enhanced arterial along Grand Avenue that will serve in part as the continuation of the super street concept envisioned for Northern Parkway. Accordingly, an enhanced connection between Northern Avenue and Grand Avenue is part of the Northern Parkway concept.

MAG completed an updated Major Investment Study for Grand Avenue in 2006. Proposed in this study are additional grade separations for Bethany Home Road at Grand/51st Avenue, Grand Avenue at Indian School Road/35th Avenue, and Grand Avenue at McDowell Road/19th Avenue. The concept also includes an increase in access control and beautification in the Glendale portion of Grand. These improvements are part of the MAG RTP with funding for access control and beautification improvements for Grand Avenue from Loop 101 to McDowell scheduled for Phase 1 (2006 to 2010) while the grade separations are planned for Phase 4 of the RTP (2021 to 2026). The Phase 1 improvements from Northern to Glendale avenues includes land acquisition, utility undergrounding, street lights, median closures, and landscaping.

SR 303L: The existing roadway located between Sarival Avenue and Cotton Lane consists of a two-lane controlled access highway from Indian School Road to Grand Avenue. Recently, a new four-lane interim roadway was completed from south of Indian School Road to McDowell Road where SR 303L transitions to Cotton Lane.

A DCR is has been completed by MCDOT to improve Loop 303 to a full urban freeway. Loop 303 from I-10 to US 60 is in the current RTP and through the Proposition 400 funding program is scheduled for construction in Phase 2 (2011 to 2015). Development of plans to connect Northern Parkway to Loop 303 were coordinated during the concurrent preparation of the separate DCRs. The Northern Parkway Loop 303 system interchange is included in the SR 303L DCR. The responsibility for Loop 303 shifted from MCDOT to ADOT in July 2006. ADOT has begun the next phase of design development for this important freeway.

Olive Avenue: Olive Avenue is a parallel roadway to Northern Avenue and is located one mile north of Northern Avenue. On March 28, 2003, MCDOT released an access control and corridor improvement study for Olive Avenue from the White Tank Regional Park to Dysart Road. Olive Avenue is designated a Road of Regional Significance and a Principal Arterial. It is planned to

ultimately provide six lanes of traffic; however, these improvements are not in the current 5-year MCDOT TIP.

East of Dysart Road, Olive Avenue passes through the cities of El Mirage, Peoria, and Phoenix and is a five-lane arterial 68 feet curb to curb. Intersection improvements are planned at 103rd Avenue and Olive by MCDOT, and MCDOT is planning to study possible improvements to the Olive Avenue Agua Fria River Bridge.

SR 101L: SR 101L (also known as Loop 101 and the Agua Fria Freeway) is a six-lane freeway that crosses Northern Avenue between 91st and 99th avenues. There is an existing diamond style interchange at Northern Avenue with Loop 101 elevated over Northern. ADOT has long-term plans to widen Loop 101 to include one high-occupancy vehicle (HOV) lane in each direction in the median and one additional general purpose lane on the outside of Loop 101. These improvements are part of the MAG RTP with the HOV lane construction from I-10 to US 60 in Phase 3 (2016 to 2020) and the general purpose lane addition in Phase 4 (2021 to 2026).

Sarival Avenue: The Woolf Crossing developer is planning to realign Sarival Avenue 0.25 mile east of its current location and improving it to a six-lane divided arterial between Northern Avenue and Olive Avenue.

El Mirage Road: MCDOT has recently completed a corridor improvement study for El Mirage Road from Northern Avenue to Bell Road. Improvements to El Mirage Road from Northern to Jomax Road including a grade separation at Grand Avenue are included in the MAG RTP. The improvements on El Mirage Road are phased beginning in 2013 with completion scheduled for 2019 per the MAG Arterial Life Cycle Program. With a proposed connection to Loop 303, El Mirage Road is planned to be a major north-south route in the area. In addition, MCDOT is planning to design and install a traffic signal at Northern Avenue and El Mirage Road in 2008.

99th Avenue: The City of Peoria has plans to extend 99th Avenue across New River and connect directly with existing 99th Avenue north of Olive Avenue. 99th Avenue will be widened to a five-lane section from Northern Avenue to Olive Avenue. This improvement project is listed in 2028 in the Peoria Transportation Needs Study.

107th Avenue: MCDOT has recently implemented improvements to 107th Avenue at Northern Avenue. These improvements include a traffic signal, widened 107th Avenue to the west to a five-lane section, and widened Northern Avenue west of 107th Avenue to a five-lane section.

91st Avenue: The City of Peoria has plans to improve 91st Avenue from Northern Avenue to Olive Avenue according to their Transportation Needs Study. The improvements include widening 91st Avenue to three lanes in each direction and a raised median. These improvements are planned for 2017 and 2018 according to the Peoria study.

83rd Avenue: Improvements to 83rd Avenue from Northern Avenue to Olive Avenue are planned by the City of Peoria. Improvements consist of constructing a five-lane section. The Peoria Transportation Needs study shows the construction in 2031.

1.4.7 Other Related Planned Improvements

New River Multi-Use Path: The City of Glendale is planning to construct the New River multi-use path from Northern Avenue to Bethany Home Road within the next five years. The path begins on the north side of Northern Avenue east of the New River and ramps down into the river channel and crosses under the existing Northern Avenue bridge and proposed bridges to the south.

Agua Fria Linear Recharge Project: The Sub-Regional Operating Group (SROG) with sponsoring cities of Glendale, Mesa, Phoenix, Scottsdale, and Tempe, and in partnership with the Bureau of Reclamation is proposing a linear recharge system along the Agua Fria River from Indian School Road to Bell Road. The Agua Fria Linear Recharge Project is a proposed groundwater replenishment project. The purpose of the current phase of the project is to investigate the possibility of using high quality reclaimed water from the 91st Avenue Wastewater Treatment Plant (WWTP) to replenish the aquifer. Reclaimed water from the WWTP will be piped north along the river or along El Mirage Road and discharge into the river at various locations. A 90-inch pipe is planned to cross Northern Parkway, and a discharge location is just south of Northern Avenue. Construction is anticipated in the years 2010-2012.

1.5 DESCRIPTION OF THE PROJECT

The proposed Northern Parkway will extend some 12.5 miles from Loop 303 to US 60 (Grand Avenue) (see Figure 1-7). The connection to Loop 303 will be located along the Butler mid-section line between Northern Avenue and Olive Avenue. A system interchange has been planned as part of the Loop 303 project. The Northern Parkway project begins at the existing location of Sarival Avenue. The planned roadway extends eastward to Litchfield Road and then curves southward to the Northern Avenue alignment at Dysart Road. From this point the parkway is planned to replace Northern Avenue all the way to Grand Avenue except for the segment between 103rd Avenue and 91st Avenue. In that 1.5-mile section, Northern Avenue will remain to provide access to Loop 101 and to the commercial properties on either side of Loop 101. Northern Parkway will be on a separate free-flow “bypass” aligned to the south of

Northern Avenue. From 103rd Avenue to 99th Avenue and from Loop 101 east ramps to 91st Avenue, eastbound and westbound Northern Avenue traffic will be separated by the bypass roadway. The existing Northern Avenue will become the new three-lane westbound Northern Avenue while a new roadway on the south side of the bypass roadway will provide three eastbound lanes. Northern Avenue under Loop 101 will be widened to accommodate three through lanes and two left-turn lanes in each direction.

One of the major features of the parkway are the GSI at the north-south arterials. GSI are planned at Sarival Avenue (east ramps only), Reems Road, Litchfield Road, Dysart Road, El Mirage Road, 103rd Avenue, 93rd Avenue (west ramps only), 91st Avenue (east ramps only), 83rd Avenue, and 75th Avenue. Northern Parkway will be free flow at each of these locations and the north-south arterial street will have a signalized intersection with the ramps to and from the parkway.

In addition to the GSI, grade separations would be provided at the BNSF Webb Spur (near 143rd Avenue), 99th Avenue, 97th Avenue, Loop 101 (bypass) and at Grand Avenue and the parallel BNSF tracks (flyover).

The parkway would be fully access controlled from Loop 303 to west of 115th Avenue. Frontage Roads and additional connector roads are planned between Dysart and El Mirage roads to accommodate truck traffic in this industrial area. Full access control will also be provided on the parkway in the bypass section from 103rd Avenue to 91st Avenue. On the remainder of the parkway, access will be limited to right turn on and off the parkway. A barrier or raised curbed median will be provided on the parkway throughout its length except at the signalized intersections of 111th and 107th avenues. New right-turn access points will be managed to minimize the number and to locate them in the safest places.

The parkway will have three continuous lanes in each direction. Auxiliary lanes will be provided between the on and off ramps for the GSI. Paved shoulders will be provided on the outside and inside edges of the travel lanes from Sarival to 112th avenues. Curbs, gutters and sidewalks will be provided for most of the remainder of the parkway except the bypass segment from 103rd Avenue to 91st Avenue.

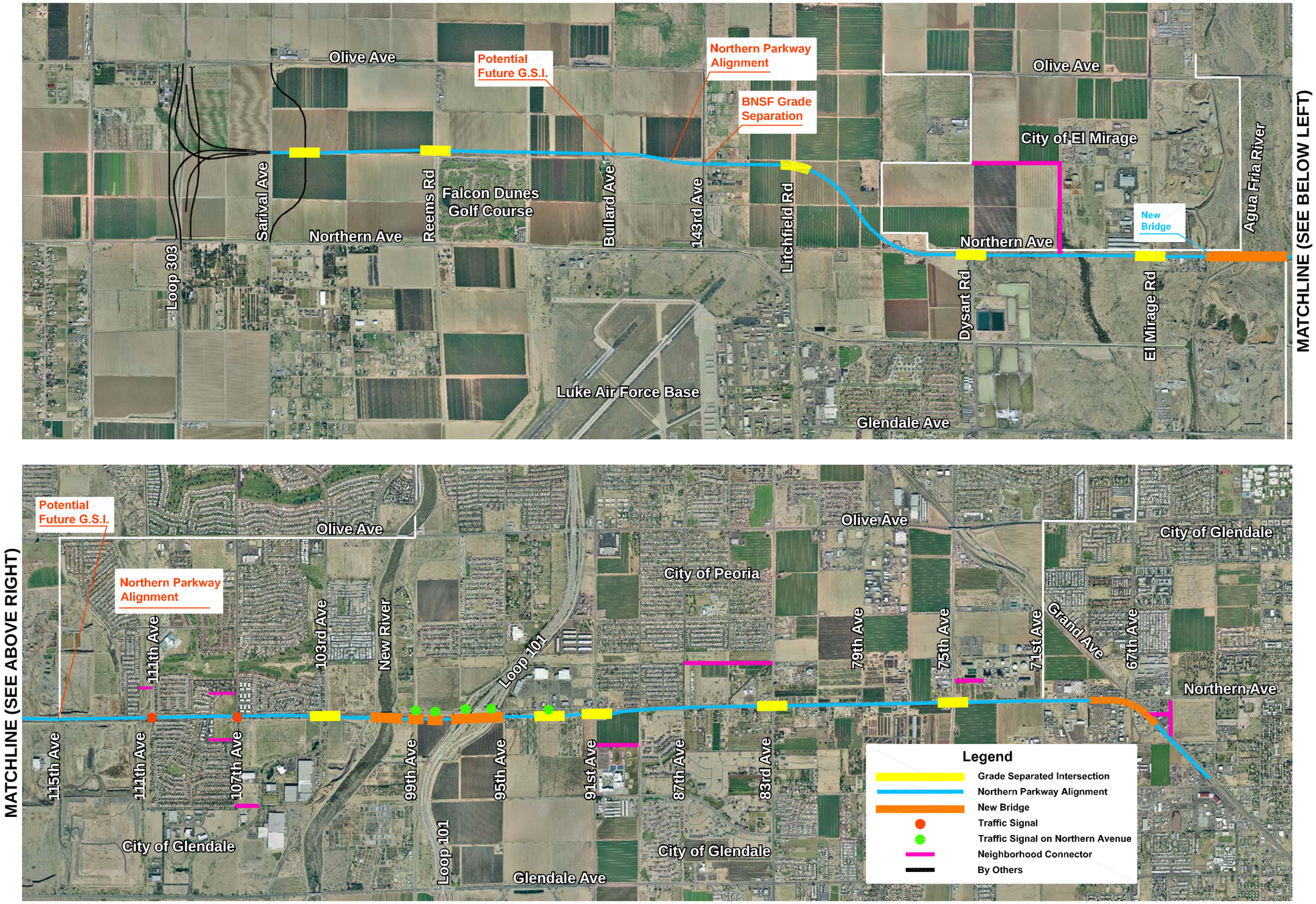

FIGURE 1-7
OVERVIEW OF THE NORTHERN PARKWAY CONCEPT

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A direct flyover connection is proposed to link Northern Parkway to the southeast leg of Grand Avenue. The flyover will be from the median of Northern to the median of Grand and will consist of a single lane in each direction separated by a concrete median barrier. The "flyover" structure will divide eastbound and westbound Northern Avenue traffic from 71st Avenue to Grand. Three lanes for westbound traffic will be provided along the current Northern Avenue while three new eastbound lanes will be provided on the south side of the flyover structure. The eastbound and westbound Northern Avenue roadways will reunite at Grand Avenue. An additional 4th lane in each direction at Grand would be provided to accommodate high traffic demand at this intersection. Left turns at the Northern/Grand intersection will be eliminated. Most left turns can be made via a right turn and use of the 67th Avenue overpass and connector roadways. The southeast Grand to eastbound Northern left turn would be accommodated by having the left-turning traffic pass through the intersection with the through traffic and then make a left turn southeast of the intersection at a proposed traffic signal and new connector road that would link back to Northern Avenue along the 65th Avenue alignment east of Grand Avenue.

A new bridge is planned at the Agua Fria River to replace the existing river bottom crossing. A new bridge will be needed at New River to accommodate the bypass alignment and another bridge at the New River will be required to accommodate the new eastbound Northern Avenue roadway.

Between 115th Avenue and 103rd Avenue, traffic signals at 111th Avenue and 107th Avenue will be provided to facilitate neighborhood access. These signals would have left-turn phases for Northern Parkway traffic. No left turns would be permitted anywhere other than at these two signals. Four neighborhood connector streets would be constructed to aid restoration of access to all the neighborhoods. Curbs, gutters, sidewalks, street lighting, and landscaping will be provided.

Connector streets are also proposed east of 91st Avenue to improve access to neighborhoods and businesses. One is for Rovey Estates subdivision located south of Northern Avenue and east of 89th Avenue, another connects 87th and 83rd avenues north of Northern, and one for the SRP Agua Fria Generating Station east of 75th Avenue.

The project will require extensive utility relocation particularly to accommodate the GSI. A major El Paso Natural Gas Company (EPNG) facility at 109th Avenue will also require relocation to accommodate the widening. The off-site drainage system will require substantial upgrading to provide 10-year storm protection and to replace several existing detention basins that will be removed to accommodate the wider street.

1.6 PRIOR STUDIES AND SUPPORTING DOCUMENTS

There are several supporting documents to this Preliminary Draft DCR for Northern Parkway as well as documents previously produced that will supplement this DCR. A list of these documents and their current status is provided as follows:

- Final Design Concept Report for Northern Parkway, Volumes 1 and 2, October 1, 2003
- Northern Parkway Preliminary Draft Environmental Assessment, November 12, 2007
- Northern Parkway Preliminary Draft Drainage Report, November 17, 2006
- Northern Parkway Preliminary Draft Traffic Analysis Report, November 17, 2006
- Northern Parkway Preliminary Draft Geotechnical and Pavement Design Report, May 2007