

APPENDIX C
NORTHERN PARKWAY IMPLEMENTATION STRATEGIES

APPENDIX C

FUNDING AND PHASING OPTIONS

The ultimate concept for Northern Parkway as described in the DCR is estimated to cost \$612.6 million. This exceeds the identified committed funding sources as described in this appendix. This funding shortfall requires the determination of priorities for the limited funds available. The Northern Parkway Management Committee evaluated approximately 10 funding and phasing options before agreeing to a funding and phasing concept.

BACKGROUND

The voters of Maricopa County approved Proposition 400 in November 2004, which includes funding for the Northern Parkway. Proposition 400 funds the Maricopa Association of Governments (MAG) Regional Transportation Plan (RTP). Implementation of the RTP is phased over 20 years beginning in 2006 and ending in 2025 and is divided into four phases as follows:

- Phase 1: 01/01/06 – 06/30/10
- Phase 2: 07/01/11 – 06/30/15
- Phase 3: 07/01/16 – 06/30/20
- Phase 4: 07/01/21 – 12/31/25

The RTP phasing plan for Northern Parkway includes right-of-way protection and interim construction of Northern Parkway from SR 303L to Dysart Road in Phase 1, Grand Avenue (US 60) connection and ultimate construction from Grand Avenue (US 60) to SR 101L in Phase 3, and SR 101L connection and ultimate construction from SR 101L to SR 303L in Phase 4. No funding is programmed for Northern Parkway in Phase 2 according to the RTP.

COMMITTED FUNDING

Regional Funds: The estimated amount of these funds as documented in the Arterial Life Cycle Program (ALCP) as approved by the MAG Regional Council on June 27, 2007 in the amount of \$221.1 million. These funds are identified in the ALCP as MAG federal STP funds.

Local Match: The RTP regional funds require a minimum local match of 30%. An initial exploration of the division of funds between local entities was (1) 40% by the City of Glendale, (2) 30% by Maricopa County, (3) 20% by the City of Peoria, and (4) 10% by the City of El Mirage. This was based on current and future frontage along the Northern Parkway. Based on these percentages funding from Glendale would total \$37.9 million, MCDOT – \$28.4 million, Peoria – \$18.9 million, El Mirage – \$9.5 million for a total local match of \$94.7 million.

Local match includes all local expenditures since the RTP was approved by voters. This includes any right-of-way dedications and expenditures for preliminary engineering.

Flood Control District of Maricopa County: Tentative agreement has been reached with the Flood Control District of Maricopa County (FCDMC) to jointly fund drainage projects in the western part of the corridor at \$1.8 million for the first project, \$4.6 million for a second project, and another project for \$2.7 million for a third project. The FCDMC is currently studying a modification to the regional drainage plan and preparing an IGA so these funding levels may change.

Burlington Northern Santa Fe Railway: It is assumed that BNSF would pay for 50% of the cost of the grade separation structure at 143rd Avenue totaling about \$5.1 million for the railroad.

Total Committed Funding: The total committed funding is \$329.9 million dollars.

POTENTIAL FUNDING

Grants: Over the 20-year period, additional grant funds might be anticipated. For example, defense related funds for the GSI at Litchfield road have been explored to meet Luke Air Force Base special needs. Other approaches such as Intelligent Transportation Systems and demonstration funds might be explored to meet the unique circumstances of the Northern Parkway.

Offset for Federal Funds: The RTP includes both sales tax and federal funds for regional arterial projects. Cost and risks are higher in using federal funds. Potential compensation for using federal funds (such as on the Northern Parkway) has been considered as part of the MAG arterial street program, but are not included in this analysis.

Regional Tax Extension: The regional half-cent transportation sales tax was first approved by voters in 1985 for a period of 20 years. The tax was extended by 20 years starting in 2005. It is reasonable to anticipate that this tax (or an equivalent tax) could be extended for 2025 through 2045.

Developer Contributions: Developers are anticipating contributing some right-of-way for Northern Parkway. These contributions may be viewed as local match and are not included in this analysis at this time.

Bonding: Municipal bonds issued by the partner agencies could accelerate completion of the ultimate Northern Parkway project. Bonds would be repaid in later Phases. Construction completion earlier saves considerable inflation costs but would require interest costs.

RECOMMENDED FUNDING AND PHASING OPTION (OPTION 2E)

The recommended funding and phasing option (Option 2E) was approved by the Northern Parkway Executive Committee on February 21, 2008. Option 2E generally concentrates available funding in the west portion of the project from SR 303L to SR 101L and phases construction from west to east. The components of this plan are summarized in order of construction as follows:

- Interim 2 lanes in each direction constructed in the ultimate right-of-way from Sarival Avenue to Dysart Road in Phase 1. The 2 lanes in each direction would be formed by constructing the outside 2 lanes plus auxiliary lanes of the ultimate parkway, and connecting roadways (ramps) for the ultimate Grade Separated Intersections (GSI). Interim at-grade signalized intersections would be formed at Sarival Avenue, Reems Road and Litchfield Road. In addition, the grade separated railroad crossing at 143rd Avenue would be constructed in this phase. The improvements would transition to match existing features at Dysart Road.
- Advancement of the Glendale and MCDOT local match funds from Phases 3 and 4 to Phase 2 would allow the construction of the Sarival Avenue GSI, Reems Road GSI, and Litchfield Road GSI in Phase 2. The ultimate bridge structures would be provided at these GSI locations, however, only 2 lanes in each direction would be accommodated as an interim measure. The timing of the Sarival Avenue GSI would coincide with the construction of the SR 303L/Northern Parkway system interchange, which is assumed to be funded and constructed by ADOT as part of the SR 303L project in Phase 2.
- Advancement of funding through federal Help Loans allows the construction in Phase 2 of the eastbound frontage road and ramps from Dysart Road to the Agua Fria bridge, one-half width of the ultimate 8-lane Agua Fria River Bridge, and the ultimate eastbound Northern Parkway roadway from the bridge to 112th Avenue. The existing Northern Avenue would be converted for westbound traffic. The new eastbound frontage road and ramps combined with the existing Northern Avenue pavement would provide 4 lanes for through traffic. At the end of Phase 2, 4 through traffic lanes would be provided from SR 303L to US 60 (Grand Avenue). The bridge construction assumes that the Agua Fria River channelization is funded and constructed by others.
- Northern Avenue street improvements at Loop 101 are also included in Phase 2 due to acceleration of funding through federal Help Loans. These improvements include 3 through lanes in each direction plus turn lanes from 99th Avenue to the east ramps of Loop 101.
- Phase 3 includes the construction of 2 parkway lanes in each direction from Dysart Road to the Agua Fria River Bridge. The 2 lanes in each direction would be formed by constructing the outside 2 lanes plus auxiliary lanes of the ultimate parkway. The GSI structures and ramps for Dysart and El Mirage roads plus westbound frontage roads between these GSI are also included. The westbound ultimate 2 lanes plus auxiliary lanes from the Agua Fria River Bridge to 111th Avenue are also included in Phase 3.
- Phase 3 also includes construction of alternative access streets at 127th Avenue from the westbound frontage road to Butler Drive and an extension of Butler Drive from 127th Avenue to Dysart Road.
- Phase 4 extends improvements and ultimate right-of-way acquisition from the 111th Avenue to SR 101L. These improvements include the ultimate 3 lanes plus auxiliary lanes from 111th Avenue to 103rd Avenue, Northern Avenue improvements for 3 lanes in each direction from 103rd Avenue to 99th Avenue including a new eastbound Northern Avenue roadway and New River Bridge.

- Alternative connector streets for the neighborhoods between 111th and 103rd avenues are also included in Phase 4.
- Phase 4 also includes temporary throwaway widening of Northern Avenue to 3 lanes in each direction from Loop 101 to 91st Avenue (FY 2025).
- Intersection improvements at 91st, 83rd, 75th, and Grand avenues are included as well in Phase 4 (FY 2025).

The recommended Option 2E is estimated to cost \$329.9 million (see Table 3-1) and has \$17.4 million for unidentified additional construction of the ultimate concept, acquires the ultimate right-of-way from SR 303L to SR 101L, and includes \$16.4 million in right-of-way preservation funds. These costs were adjusted after the FHWA cost estimate review conducted in June 2009. The total cost of the approved phased construction through 2025 became \$312.6 million (see Northern Parkway Initial Financial Plan, November 2009).

TABLE C-1
NORTHERN PARKWAY PHASING RECOMMENDATION
7/31/2008
ANNUAL COST AND FUNDING BY SOURCE (FY 2008 - 2025)
(In Millions of 2007 Dollars)

COSTS

DESCRIPTION	TYPE OF WORK	2003-2007	Phase 1				Phase 1	Phase 2				Phase 2	Phase 3				Phase 3	Phase 4					Phase 4	GRAND TOTAL	
			FY08	FY09	FY10	FY11	Totals	FY12	FY13	FY14	FY15	Totals	FY16	FY17	FY18	FY19	FY20	Totals	FY21	FY22	FY23	FY24	FY25		Totals
67th Ave. Design Fix*	Ult. Design	0.4																							0.4
Northern Pkwy DCR*	Prelim Engr	3.0																							3
Sarival to Dysart (Incl. BNSF RR OP)	Int. Design Ult. ROW Int. Const.			3.4 15.9	17.7	24.3	3.4 33.6 43.5																		3.4 33.6 43.5
Dysart to 111th	Int. Design Ult. ROW Int Const					0.8 10.7	0.8 10.7		4.1 10.5																0.8 14.8 10.5
Sarival Overpass	Int. Design Int. Const.								0.8																0.8 10.2
Reems Overpass	Int. Design Int. Const.									0.8															0.8 10.6
Litchfield Overpass	Int. Design Int. Const.										0.8		9.9												0.8 9.9
Dysart Overpass	Int. Design Int. Const.													2.1		25.6									2.1 25.6
El Mirage Alt. Access	Ult. Design Ult. ROW Ult. Const.															0.2		2.4							0.2 2.4 3.1
El Mirage Overpass	Int. Design Int. Const.																2.2		27.8						2.2 27.8
Agua Fria Bridge (short) (Half)	Int. Des Int. Const.									0.5	6.4	0.5 6.4													0.5 6.4
Agua Fria to 111th	Int. Design Int. Const.																0	0.3		3.4					0 0.3 3.4
111th to 107th (8-lane)	Ult. Design Ult. ROW Ult. Const.																		1.2		4.8				1.2 4.8 14.1
107th to 99th	Street Design Ult. ROW Street Const.																			1.6		6.8			1.6 6.8 20.4
Northern Ave at Loop 101	Street Design Ult. ROW Street Const.									0.4 2.2		0.4 2.2													0.4 2.2 5.5
Loop 101 to 91st (Throwaway)	Street Design Int. ROW Street Const.																				0.3		0.5		0.3 0.5 3.9
91st to Grand	Intersections																						8		8
Unidentified Additional Const. for Ult. Concept	Ult Const.																						17.4		17.4
Help Loan Interest														2.0	1.4										3.3
ROW Protection*	ROW	6.0																							6.0
ROW Protection	ROW	0.0	0.0	2.7	0.6	2.8	6.1	1.7	1.2	1.0	1.0	4.9	1.0	0.8	0.5	0.8	0.6	3.7	0.8	0.7	0.2	0.0	0.0	1.7	16.4
TOTALS		9.4	0	22	37.5	38.6	98.1	17.1	12.2	15.5	22.8	67.6	3.0	4.3	26.1	3.2	30.8	67.3	5.4	10.5	21.4	20.9	29.3	87.5	329.9

* Costs previously incurred

FUNDING

FUNDING SOURCE	2003-2007	2008	2009	2010	2011	Phase 1 Totals	2012	2013	2014	2015	Phase 2 Totals	2016	2017	2018	2019	2020	Phase 3 Totals	2021	2022	2023	2024	2025	Phase 4 Totals	Total	
Committed Regional Funds		0.0	10.7	25.3	21.8	57.8	0	0	0	0	0.0	14.3	12.8	23.5	2.5	27.8	80.9	4.5	9.1	20.1	19.9	28.7	82.3	221.0	
Glendale Minimum Match	9.4	0.0	4.0	4.0	4.0	12.0	4.0	4.0	4.0	4.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9
MCDOT Minimum Match	0.0	0.0	2.0	2.0	2.0	6.0	6.0	6.0	6.0	4.4	22.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4
Peoria Minimum Match	0.0	0.0	3.0	1.0	2.5	6.5	0.0	1.5	0.0	0.0	1.5	2.0	2.0	2.0	0.2	2.4	8.6	0.4	0.8	0.7	0.5	0.0	2.4	19.0	
El Mirage Minimum Match	0.0	0.0	0.50	0.56	0.56	1.6	0.56	0.56	0.56	0.56	2.2	0.56	0.56	0.56	0.56	0.56	2.8	0.56	0.56	0.56	0.56	0.56	2.8	9.5	
FCD			1.8	4.6	2.7	9.1																			9.1
BNSF					5.1	5.1																			5.1
Help Loan							6.6	0.1	5.0	13.3	25.0	-13.9	-11.1				-25.0								0.0
TOTAL	9.4	0.0	22.0	37.5	38.6	98.1	17.2	12.2	15.6	22.8	67.6	3.0	4.3	26.1	3.3	30.7	67.3	5.4	10.4	21.4	21.0	29.3	87.5	329.9	
Running Balance	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.1	0.0		0.1	0.0	0.0	0.0	0.0	0.0		0.0

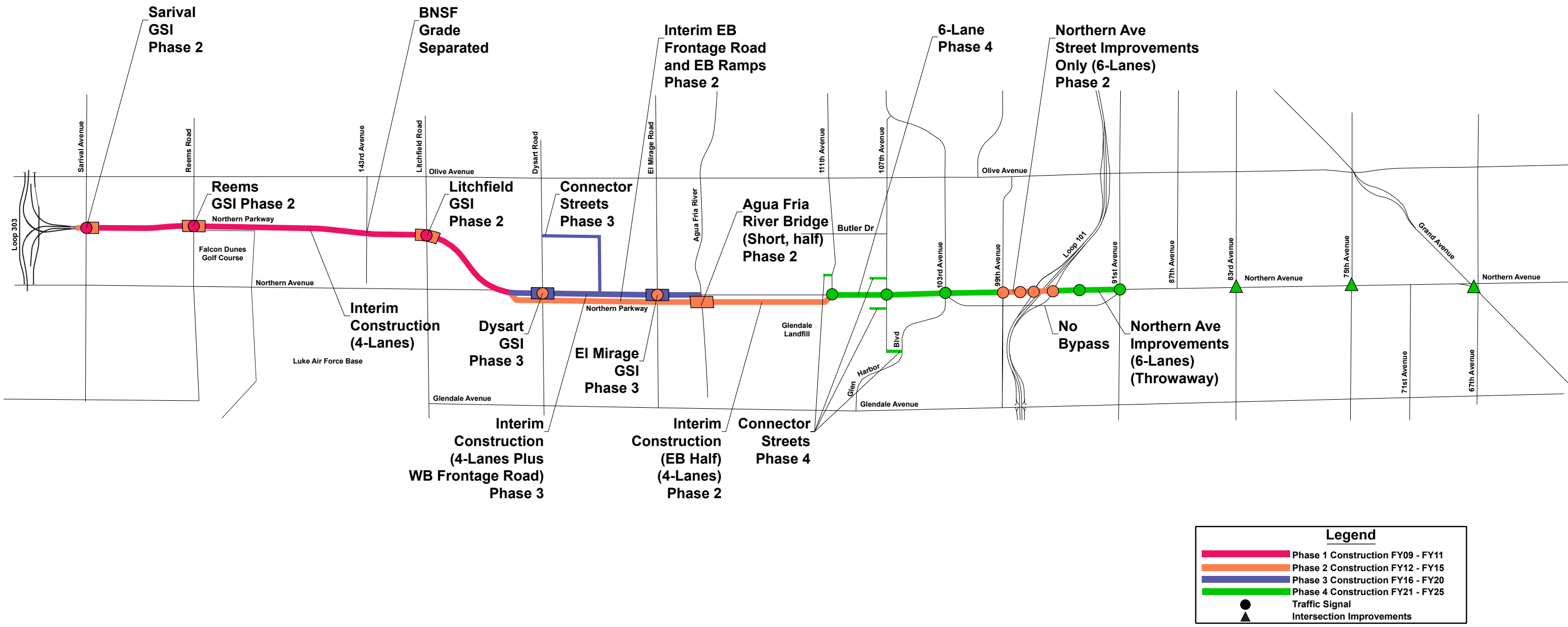


Figure C-1
PHASING RECOMMENDATION