

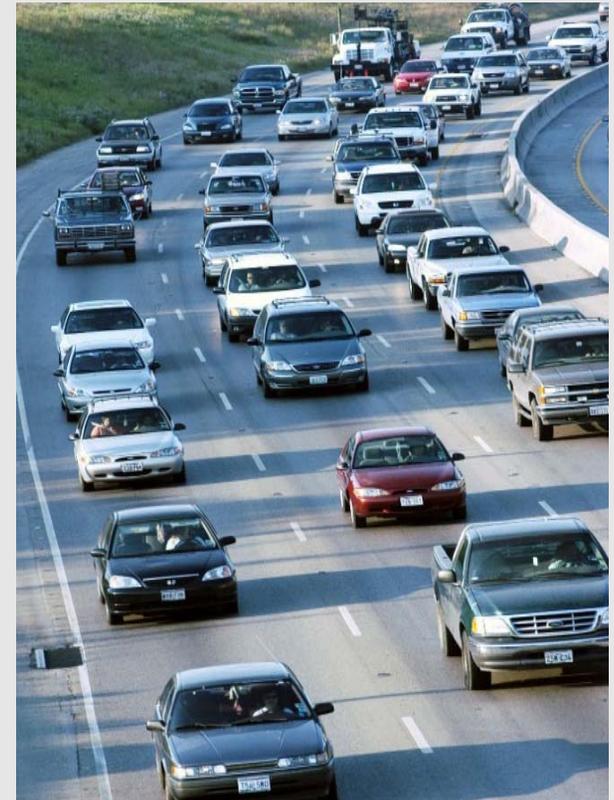


TEXAS DEPARTMENT OF TRANSPORTATION



RM 620 IMPROVEMENT STUDY

SH 71 to US 183



June 1, 2016



STUDY PROCESS

Study Background

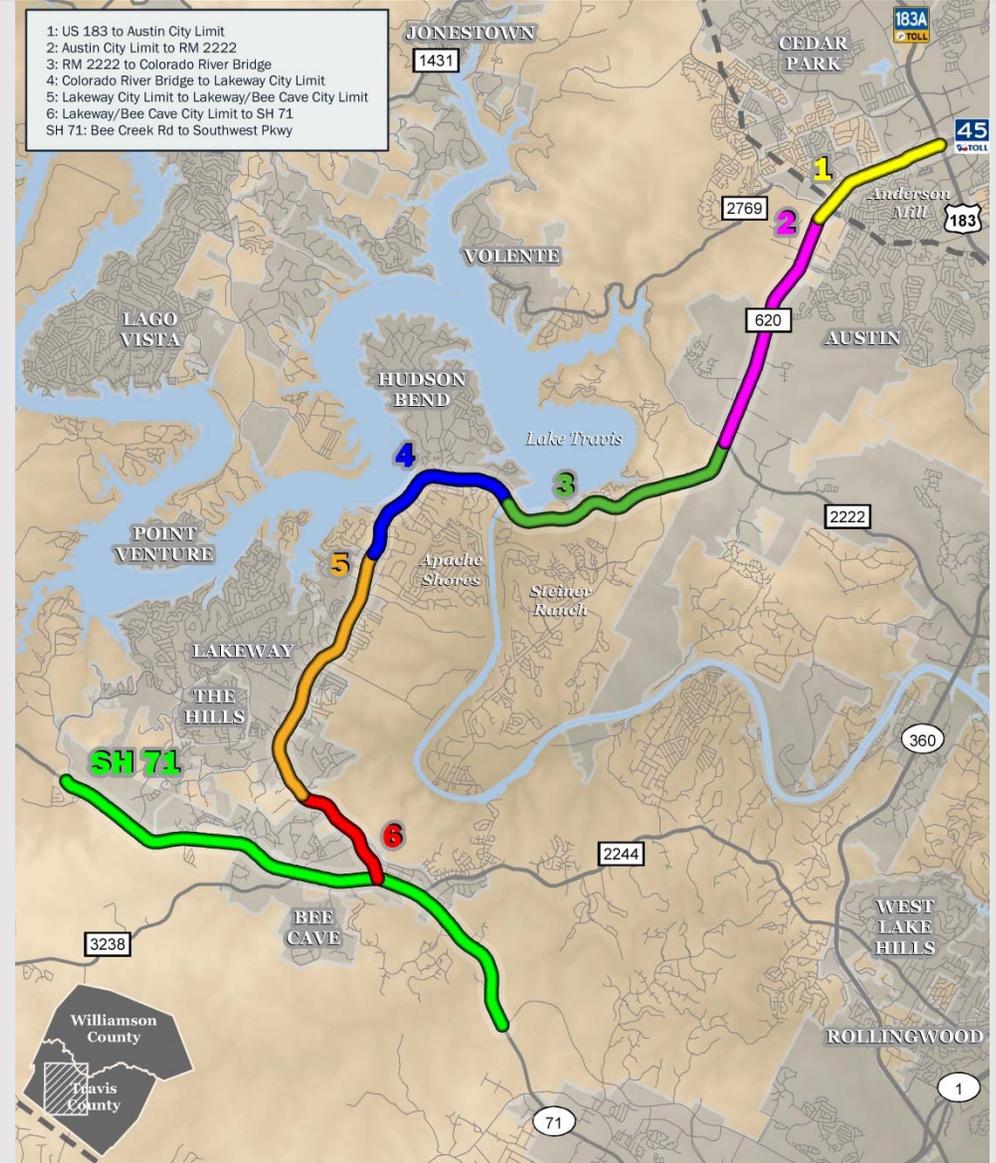


- Dual function – urban thoroughfare & state highway
- Study Limits - US 183 to SH 71 - 18 miles

Study Area

Connects and serves Travis and Williamson Counties, Cedar Park, Austin, Lakeway, and Bee Cave

Divided into six sections for study purposes

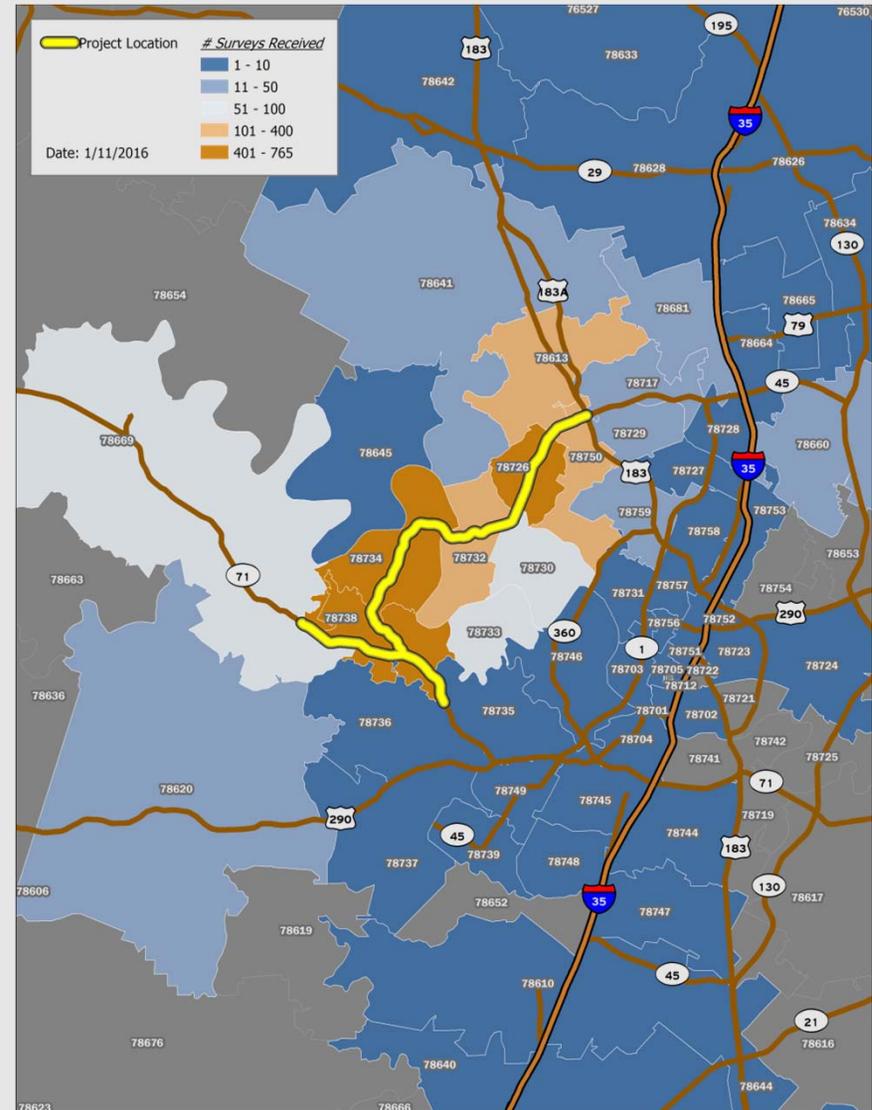




NEED FOR IMPROVEMENTS – PUBLIC PERCEPTION

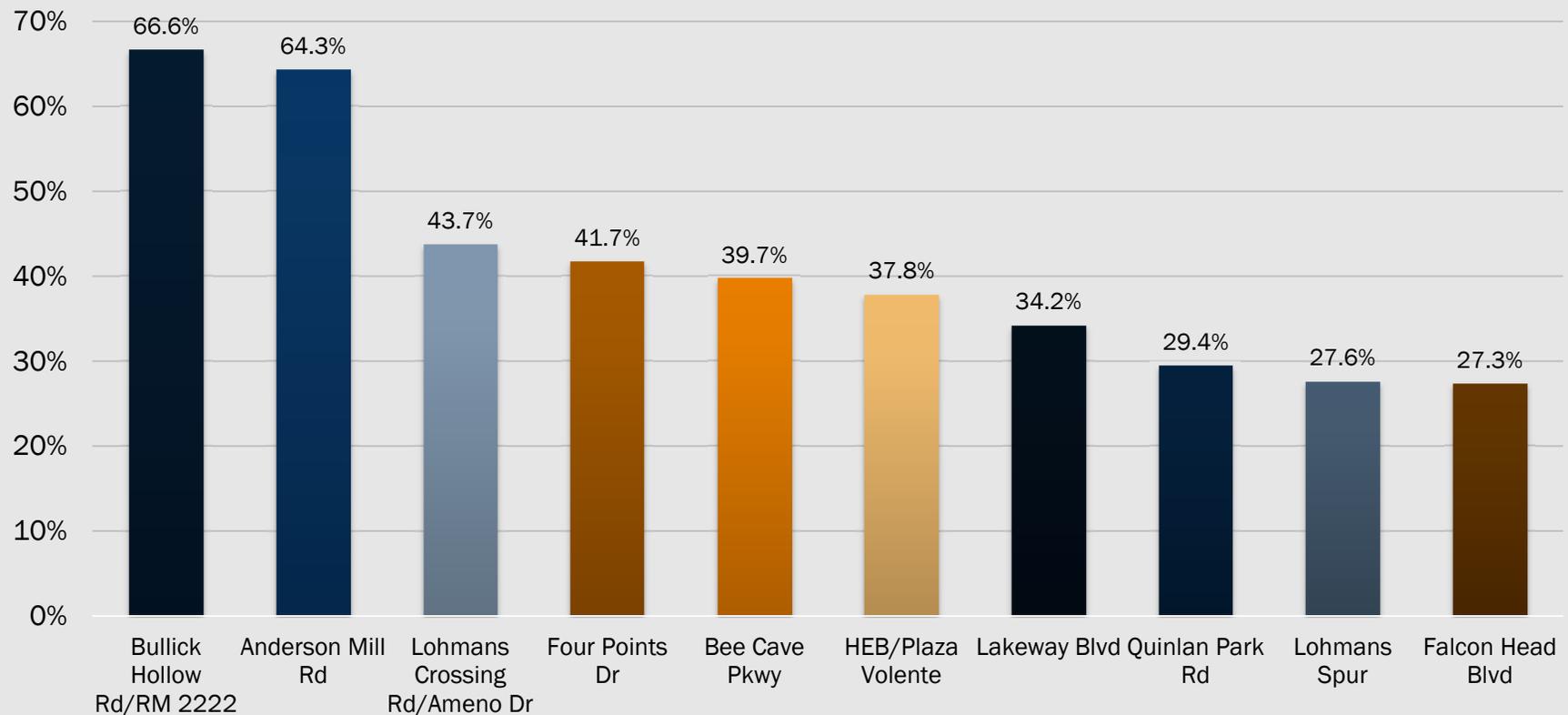
RM 620 Feasibility Survey

- Nearly **3000** survey responses
- Approximately **71%** of respondents live along RM 620 corridor
- Responses from **84** zip codes
- **58%** of respondents travel 620 several times a day
- **19%** of respondents say they have been involved in a traffic crash on RM 620

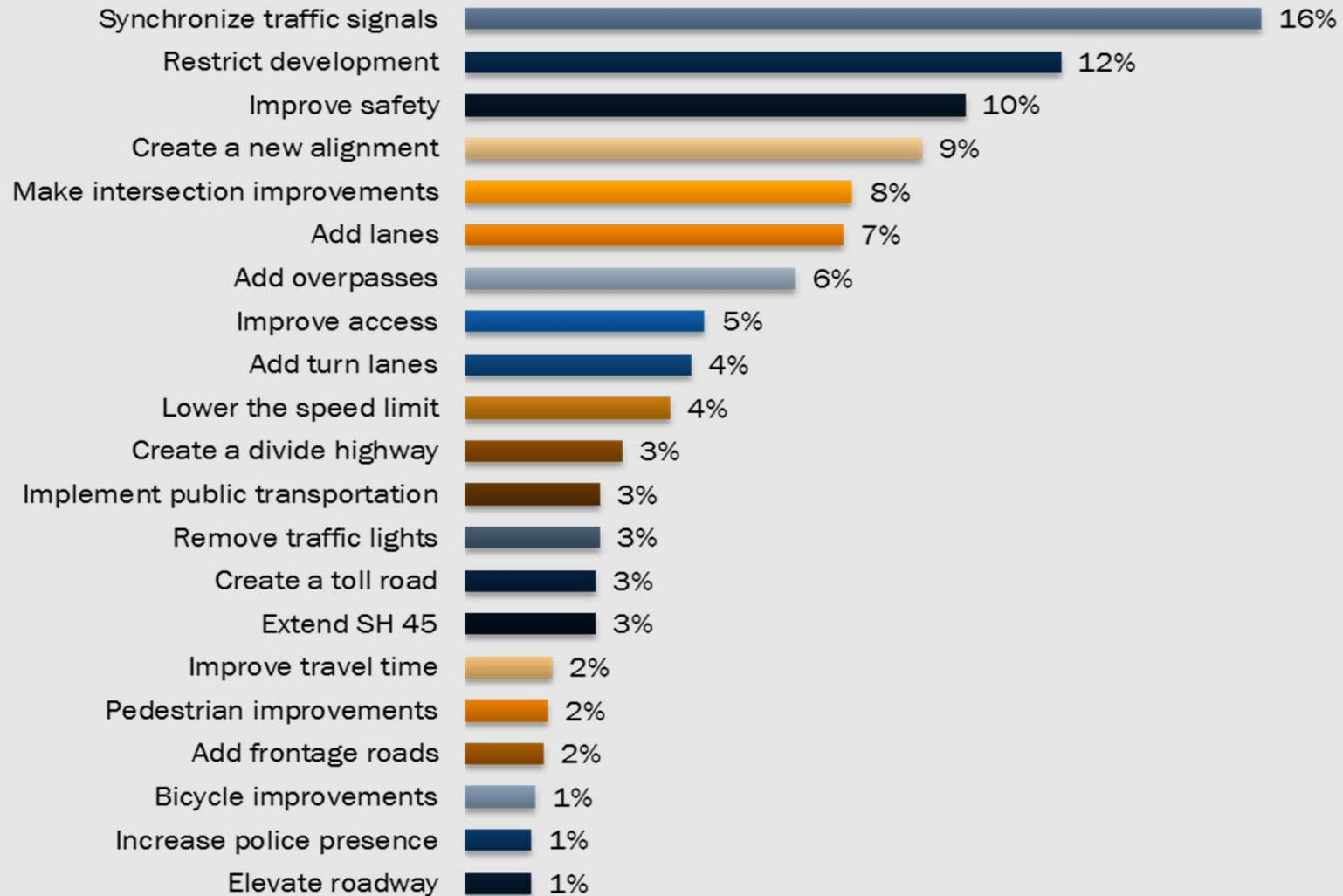


RM 620 Intersections

The top ten intersections most often identified by survey respondents as having significant mobility problems include:



Suggestions from the public*

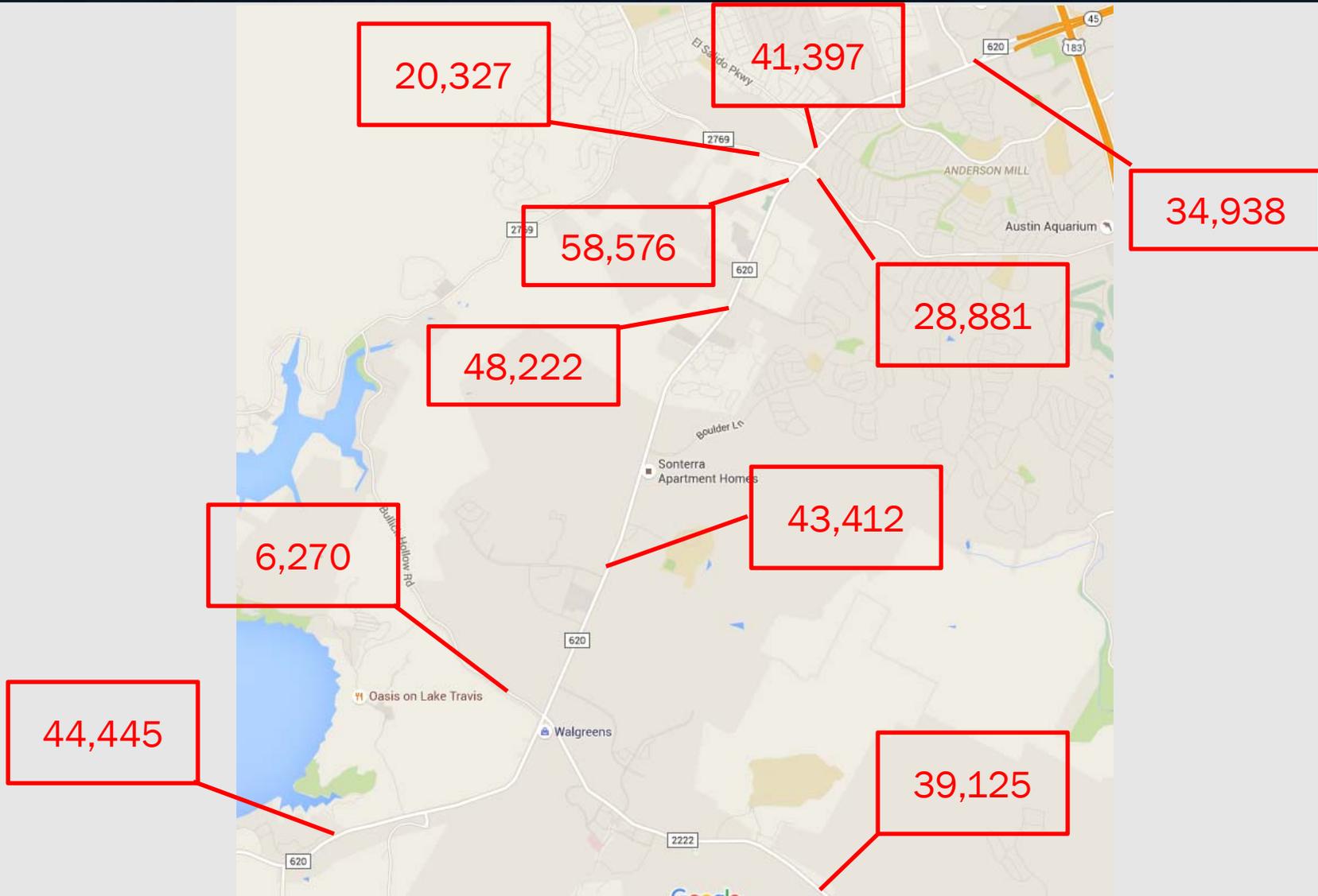


*Suggestion responses were grouped into themes. Percentages were calculated by dividing the number of responses per theme by the total number of responses.



NEED FOR IMPROVEMENTS – TRAFFIC

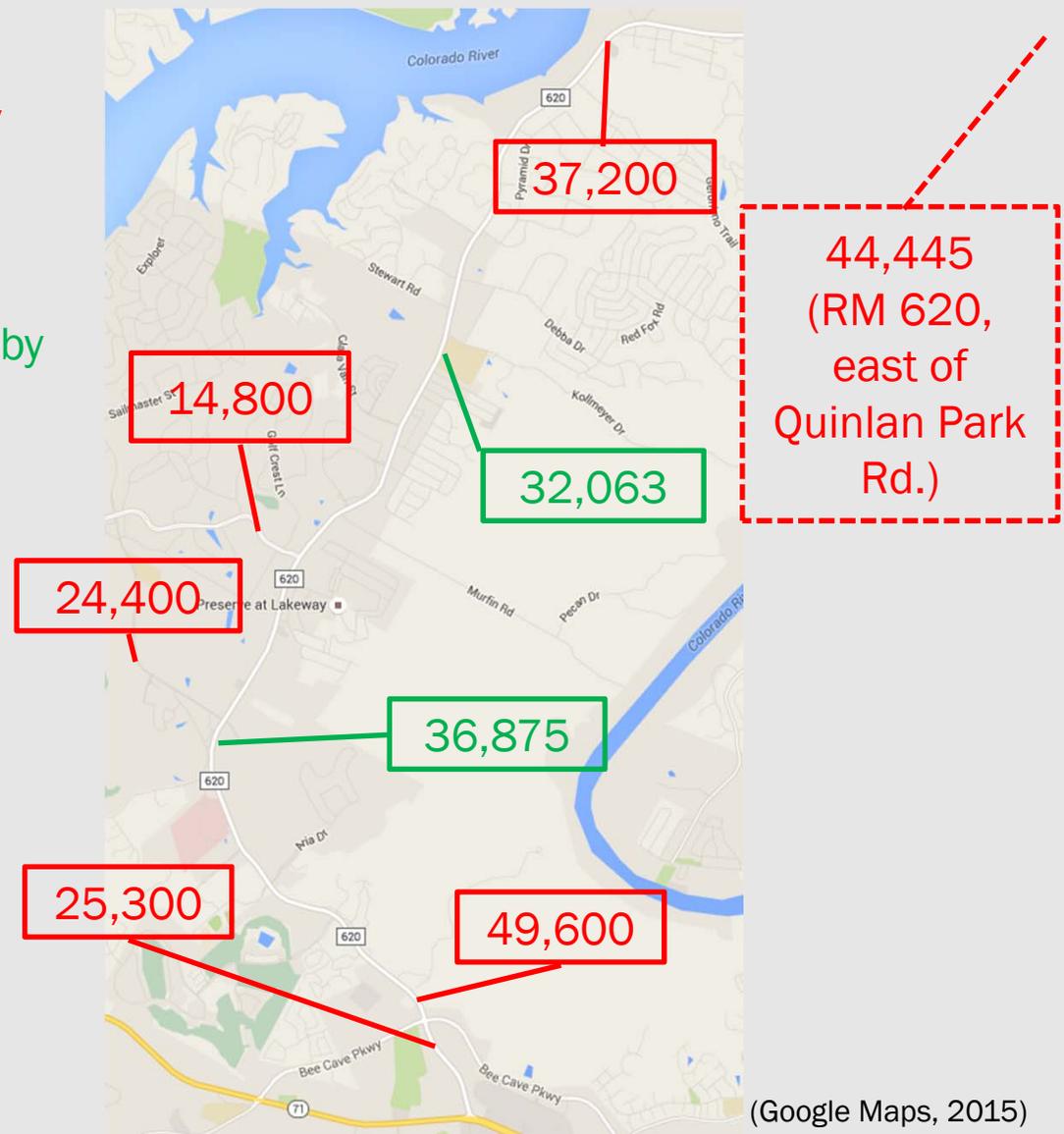
Existing Traffic Volumes



24-hour counts (March 10, 11, and 12, 2015) collected as part of study; map from Google Maps

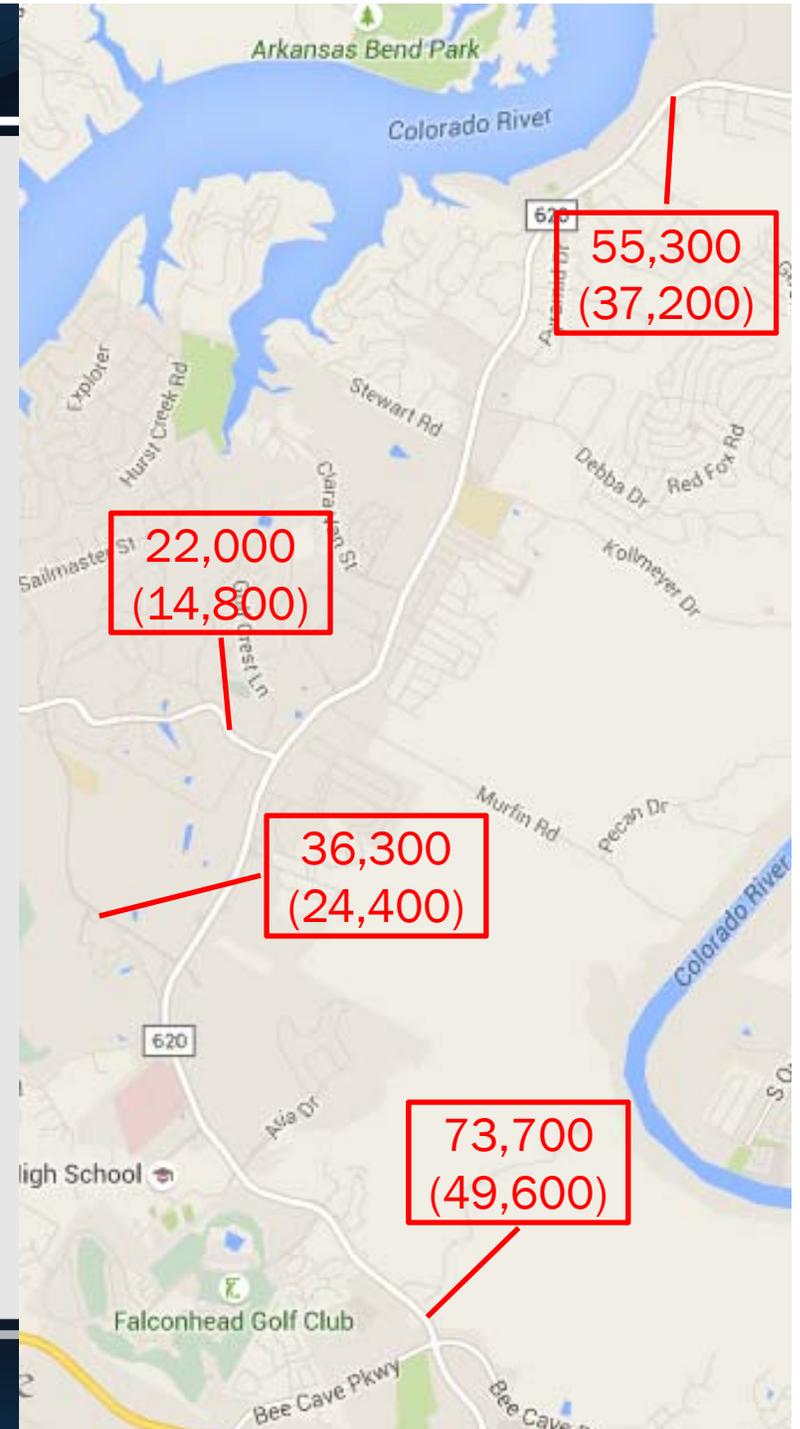
Existing Conditions

- 24-hour vehicle counts collected by HDR in March 2015
- Average annual daily traffic counts by TxDOT, 2014



2035 Forecasted Conditions

- HDR's daily traffic projections
 - 2% annual growth per year
 - (2015 daily traffic volumes in parentheses)





NEED FOR IMPROVEMENTS – SAFETY!!

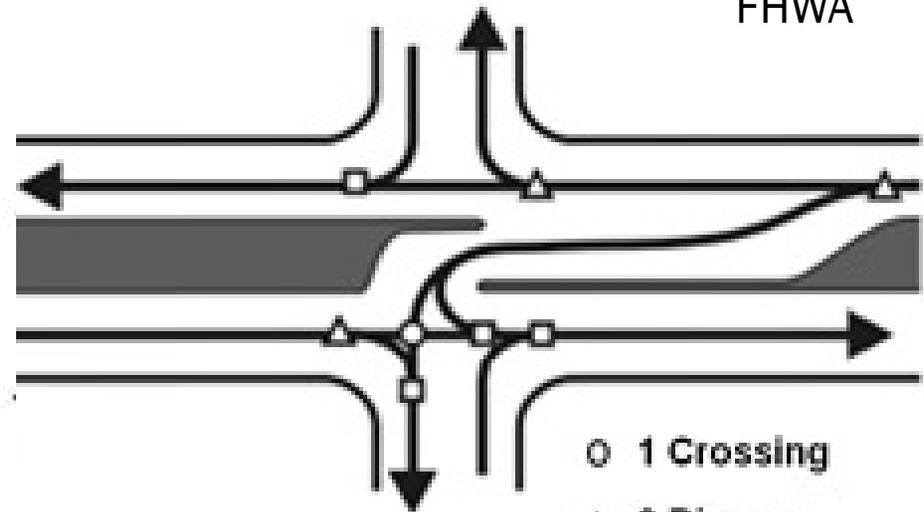
Safety

- Recent fatalities along RM 620
- Unsafe driving environment
 - High speed (50 – 55 mph)
 - Numerous access points (e.g., private driveways)
 - Many conflict points along RM 620
- Impedes RM 620 mobility



Photo:

Image:
FHWA



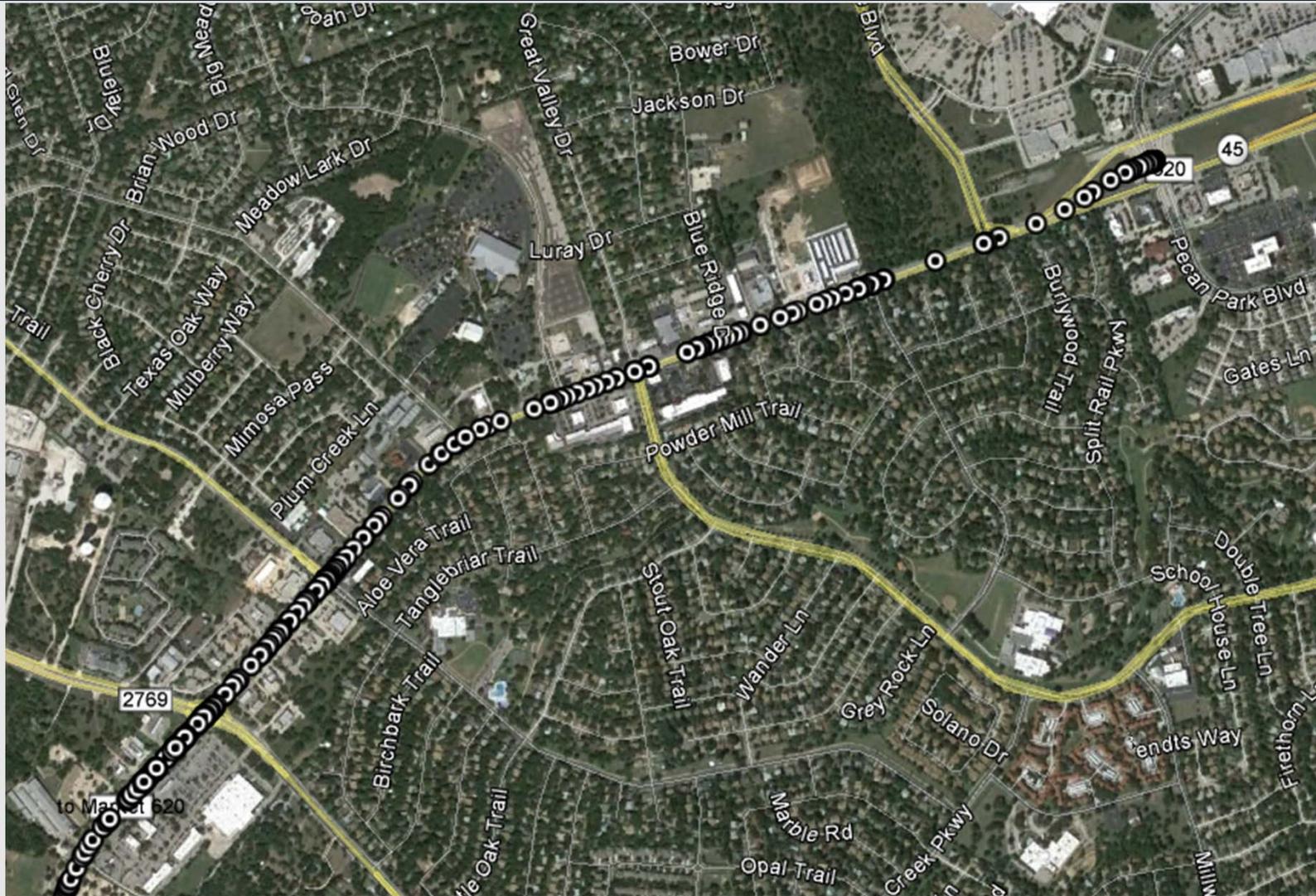
○ 1 Crossing

△ 3 Diverge

□ 4 Merge

8 TOTAL

Crashes (2010 – 2015): Section 1

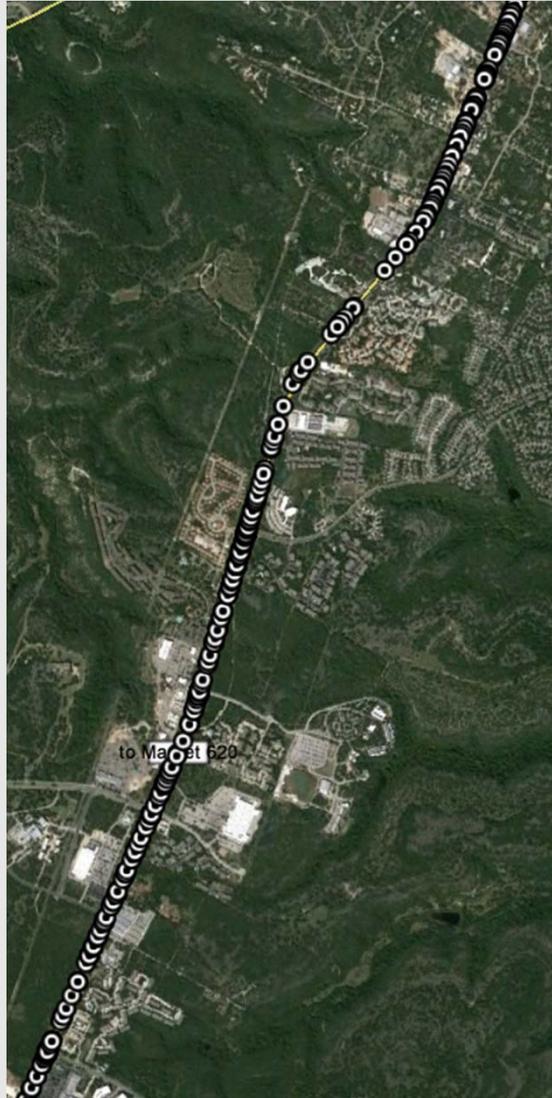


Data from TxDOT; map from Google Earth Pro

305 total crashes

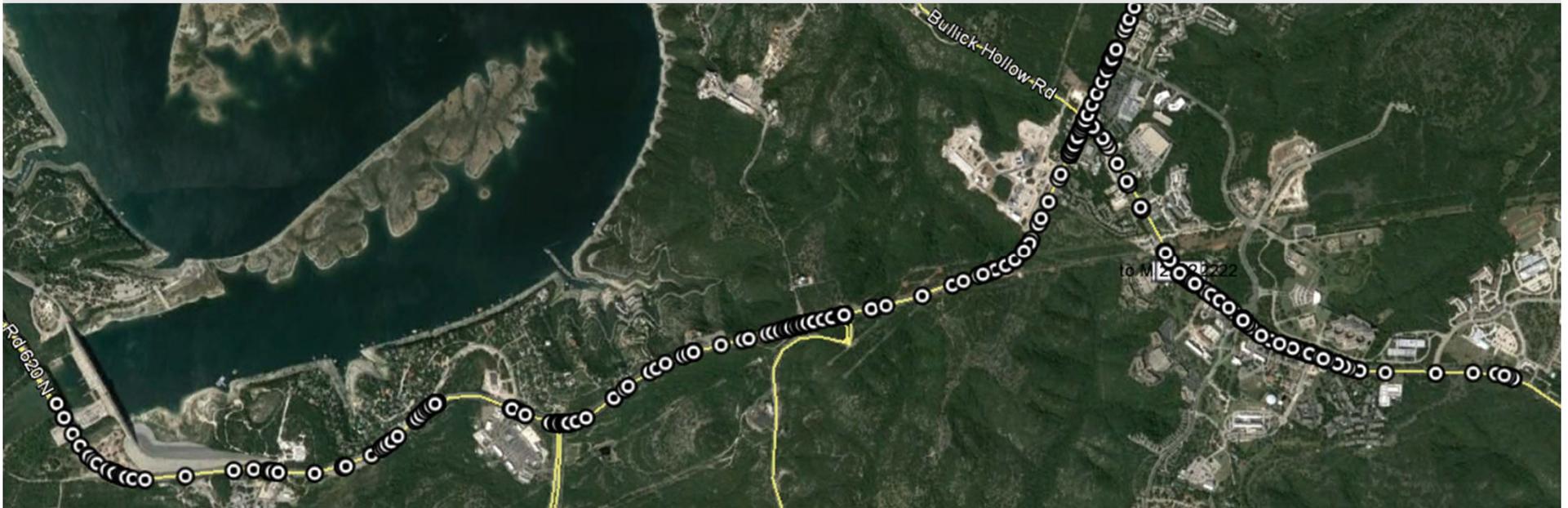
Crashes (2010 – 2015): Section 2

398 total crashes



Data from TxDOT; map from Google Earth Pro

Crashes (2010 – 2015): Section 3

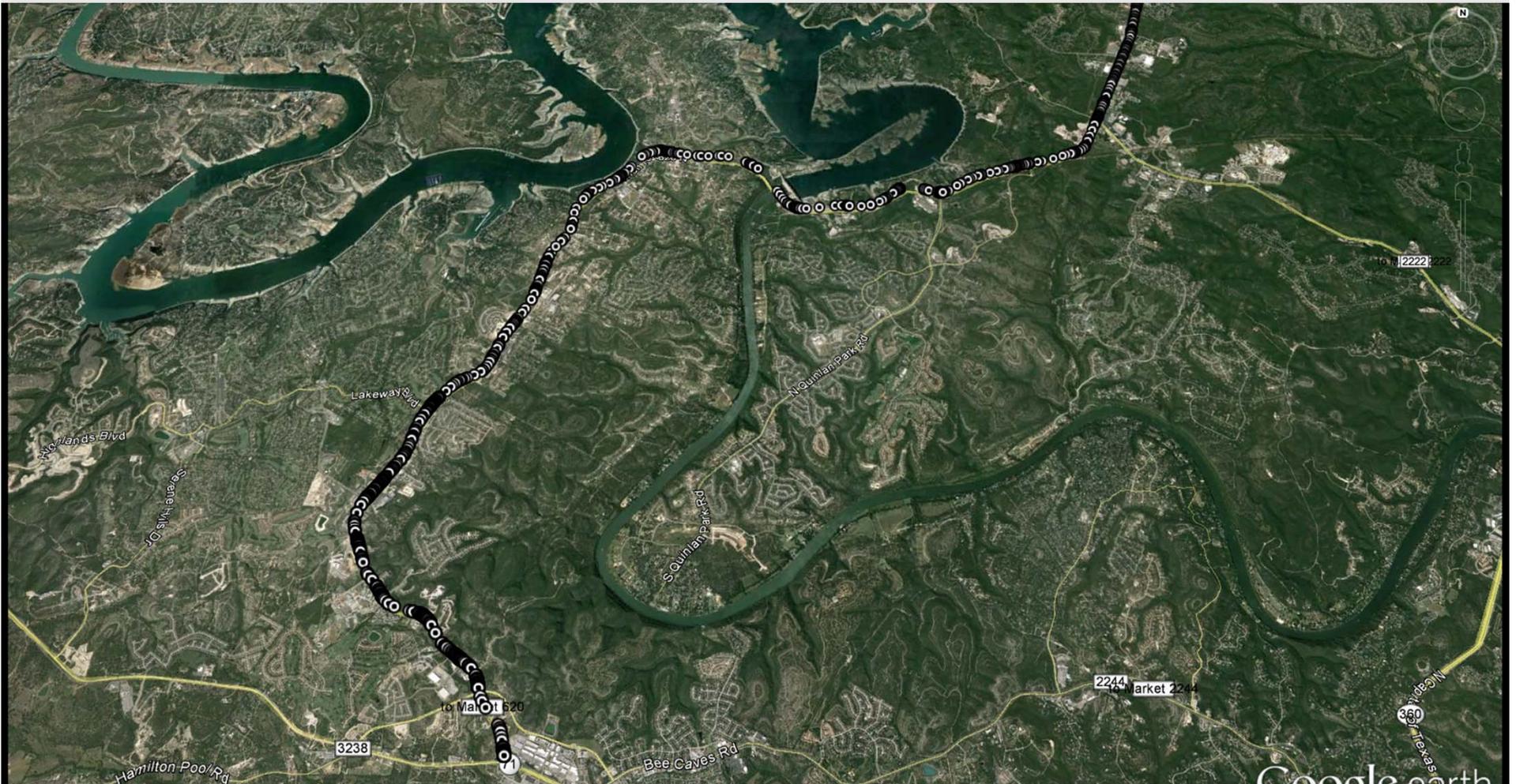


Data from TxDOT; map from Google Earth Pro

285 total crashes along RM 620

135 total crashes along RM 2222

Crashes (2010 – 2015): Sections 4, 5, & 6



624 crashes in possible 6-lane section in Lakeway and Bee Cave
296 crashes in possible 4-lane section south of Colorado River Bridge

Data from TxDOT; map from Google Earth Pro

Existing Traffic Conditions

- Traffic volumes
- Levels of Service (LOS)
- Travel times
- Travel speeds

LOS	Example
A/B	
C/D	
E/F	

Existing LOS

Intersection	AM Peak	PM Peak
Section 1		
RM 620 WB / Pecan Park Boulevard	C	C
RM 620 EB / Pecan Park Boulevard	B	C
RM 620 / Deerbrook Trail	A	A
RM 620 / Great Valley Drive/Lake Creek Parkway	C	D
RM 620 / Hatch Road	B	B
RM 620 / El Salido Parkway	D	D
RM 620 / Anderson Mill Road (RM 2769)	F	F
RM 620 / H-E-B Drwy.	B	E
Section 2		
RM 620 / Buckner Road/Boulder Lane	D	E
RM 620 / Boulder Lane (South)	C	D
RM 620 / Concordia University Drive	B	D
RM 620 / Wilson Parke Avenue/Rock Harbour Drive	C	B
RM 620 / Four Points Drive	A	C
Section 3		
RM 620 / RM 2222	F	F
RM 620 / Comanche Trail	E	D
RM 620 / Quinlan Park Road	C	D
RM 620 / Marshall Ford Road	B	B
RM 2222 / River Place Boulevard	F	D
RM 2222 / Sitio Del Rio Boulevard	E	A
RM 2222 / McNeil Drive	C	C

AM Peak LOS: Sections 3 & 4

Intersection	Existing	2035 No-Build
RM 620 / RM 2222	F	F
RM 620 / Comanche Trail	E	F
RM 620 / Quinlan Park Road	C	D
RM 620 / Marshall Ford Road	B	B
RM 2222 / River Place Boulevard	F	F
RM 2222 / Sitio Del Rio Boulevard	E	E
RM 2222 / McNeil Drive	C	F
RM 620 / Hudson Bend Road	C	D
RM 620 / General Williamson Drive	B	D

PM Peak LOS: Sections 3 & 4

Intersection	Existing	2035 No-Build
RM 620 / RM 2222	F	F
RM 620 / Comanche Trail	D	E
RM 620 / Quinlan Park Road	D	E
RM 620 / Marshall Ford Road	B	B
RM 2222 / River Place Boulevard	D	C
RM 2222 / Sitio Del Rio Boulevard	A	A
RM 2222 / McNeil Drive	C	C
RM 620 / Hudson Bend Road	D	F
RM 620 / General Williamson Drive	B	D

AM Peak LOS: Sections 5 & 6

Intersection	Existing	2035 No-Build
RM 620 / Debba Drive	F	F
RM 620 / Kollmeyer Drive	B	E
RM 620 / Lakeway Boulevard	C	E
RM 620 / Lohmans Crossing Drive/Ameno Drive	E	F
RM 620 / Lohmans Spur Road	B	D
RM 620 / Flint Rock Road	B	F
RM 620 / Spillman Loop/Honey Creek Court	D	F
RM 620 / Cavalier Drive/Aria Drive	F	F
RM 620 / Falcon Head Boulevard	C	D
RM 620 / Ladera Boulevard	B	D
RM 620 / Bee Cave Parkway	E	F
RM 620 / SH 71	C	D

PM Peak LOS: Sections 5 & 6

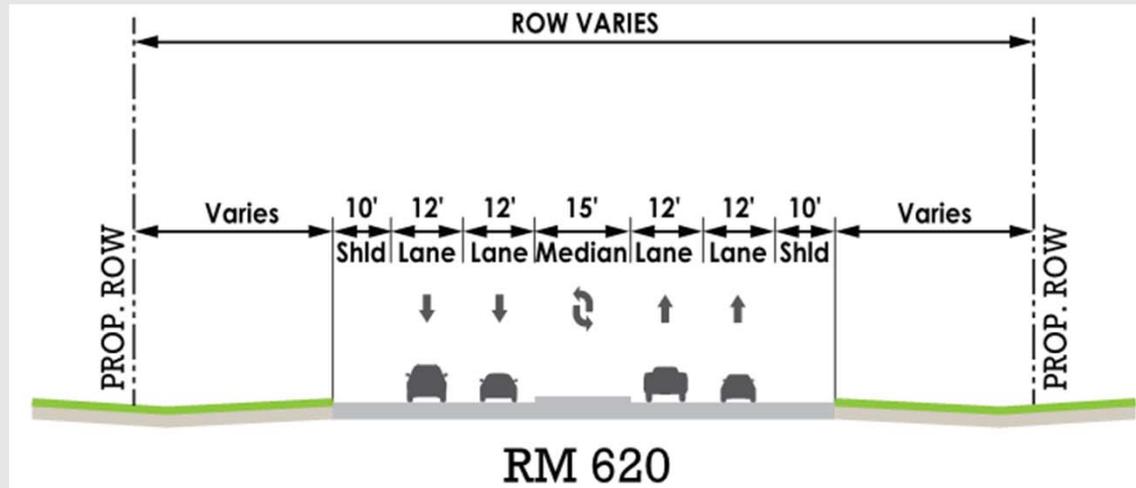
Intersection	Existing	2035 No-Build
RM 620 / Debba Drive	E	F
RM 620 / Kollmeyer Drive	B	E
RM 620 / Lakeway Boulevard	C	F
RM 620 / Lohmans Crossing Drive/Ameno Drive	F	F
RM 620 / Lohmans Spur Road	B	E
RM 620 / Flint Rock Road	B	F
RM 620 / Spillman Loop/Honey Creek Court	A	E
RM 620 / Cavalier Drive/Aria Drive	C	F
RM 620 / Falcon Head Boulevard	C	E
RM 620 / Ladera Boulevard	C	F
RM 620 / Bee Cave Parkway	E	F
RM 620 / SH 71	D	F



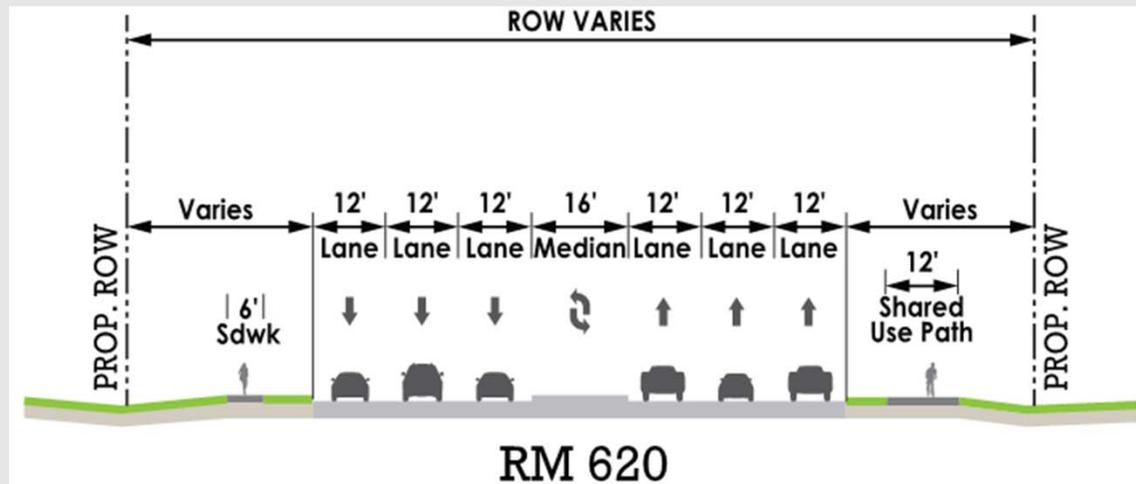
SCENARIO DEVELOPMENT AND ANALYSIS

Possible Cross Sections – Mid-Term

Between Colorado River Bridge and Quinlan Park Road

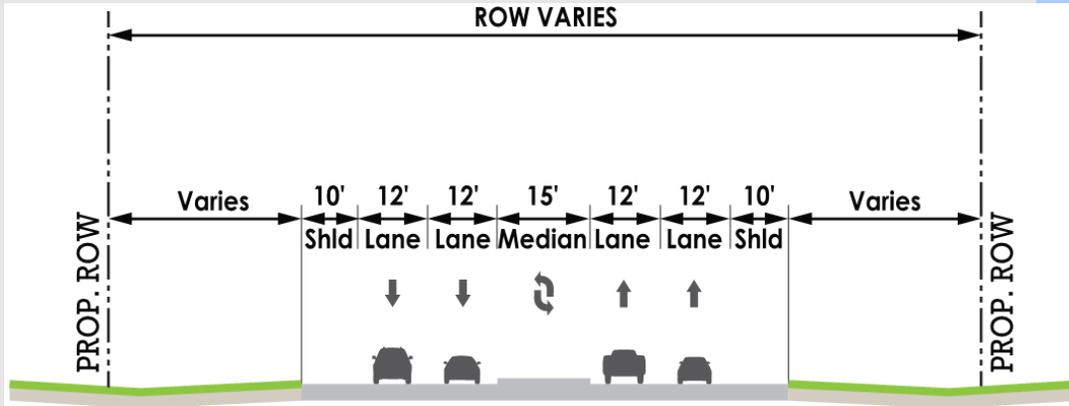


Between Quinlan Park Road and US 183

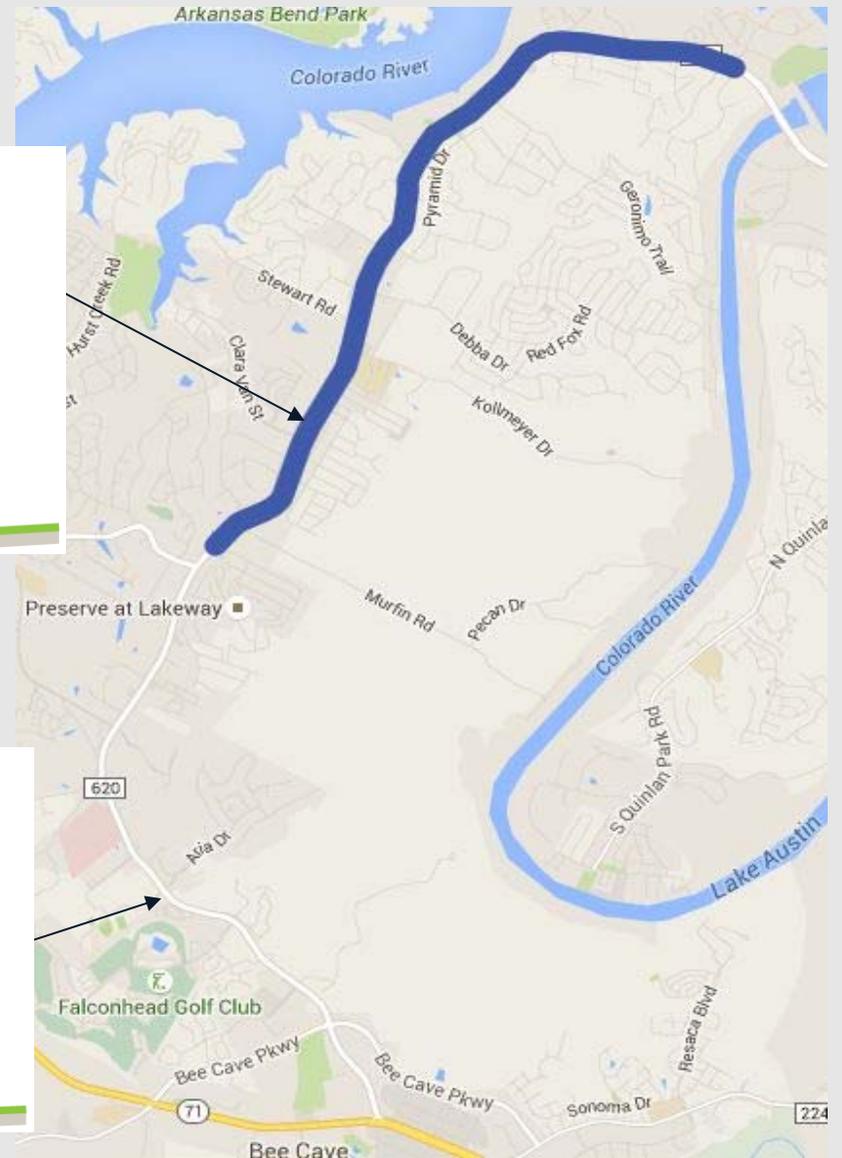
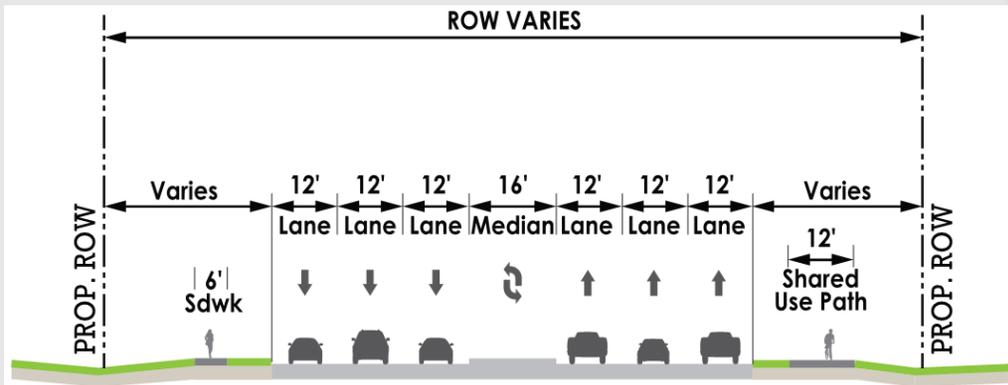


Possible Cross Sections

Lakeway Boulevard to Mansfield Dam Bridge

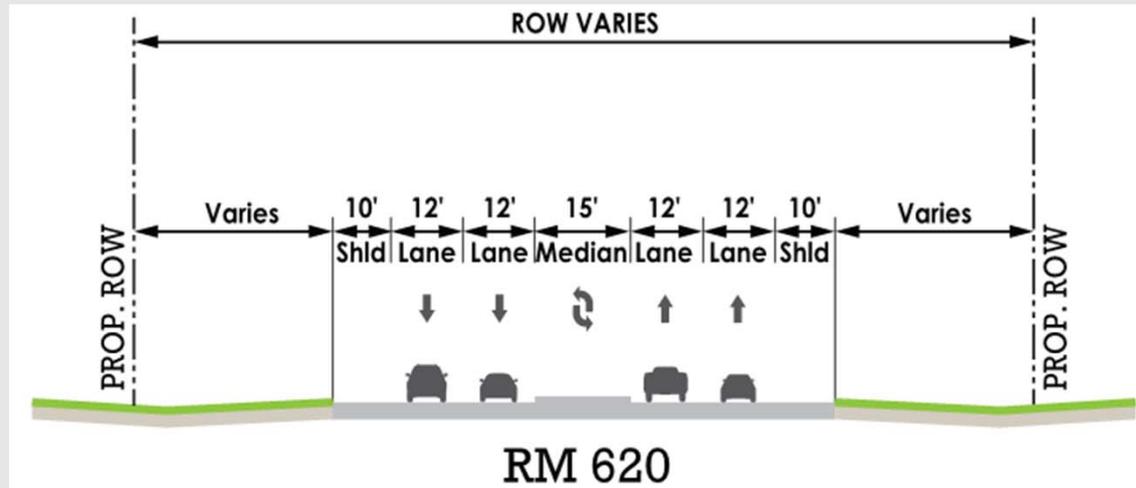


SH 71 to Lakeway Boulevard

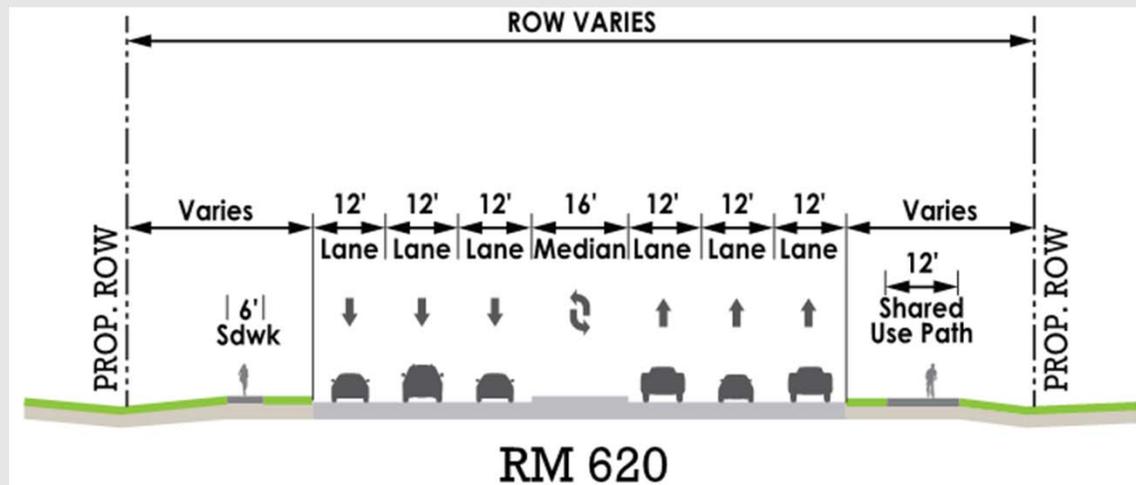


Possible Cross Sections – Mid-Term

Between Colorado River Bridge and Quinlan Park Road

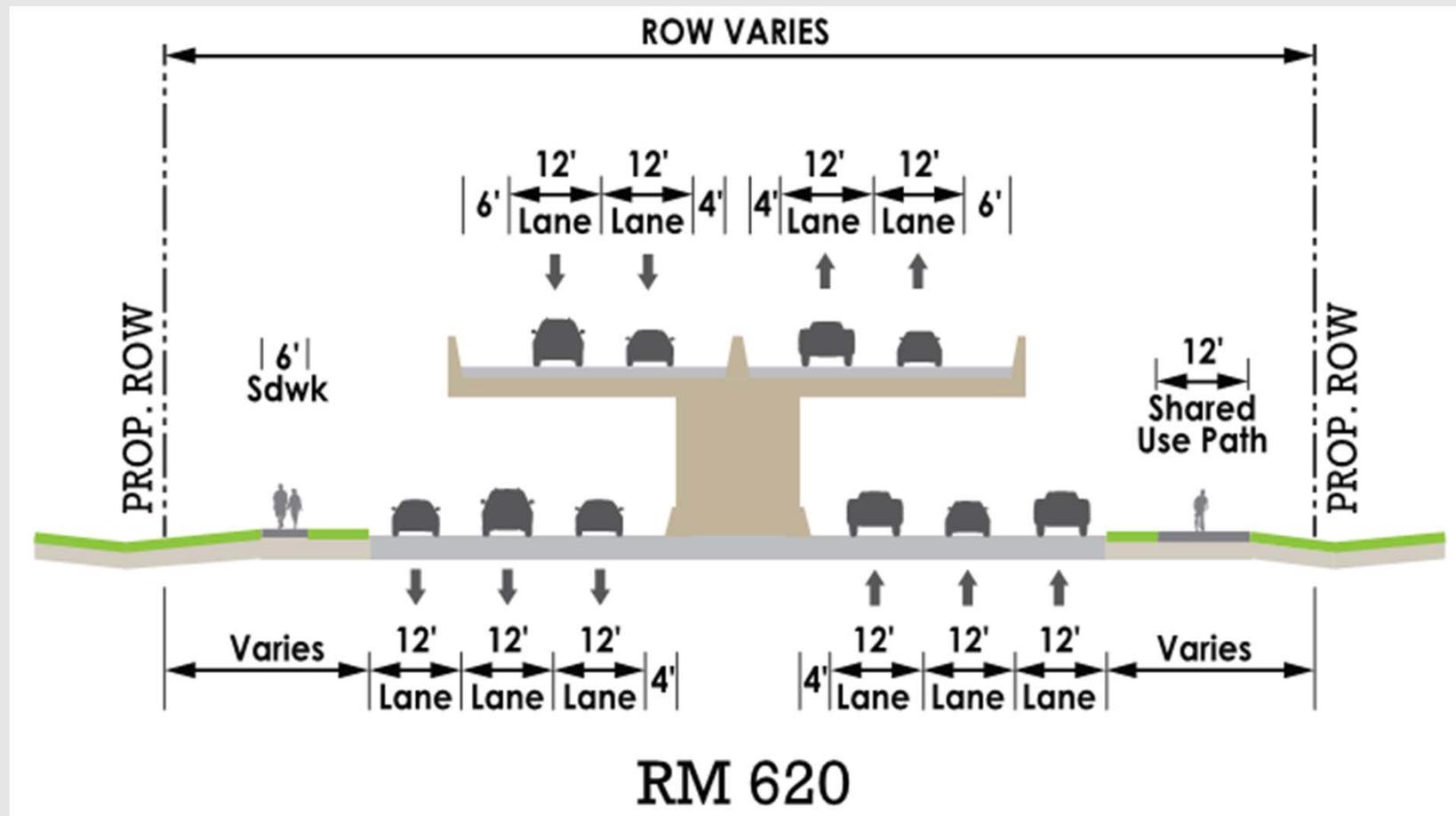


Between Quinlan Park Road and US 183



Possible Cross Sections – Long-Term

Between RM 2222 and US 183



2035 No-Build vs. Build LOS – Mid-Term Improvements

Intersection	No-Build		Build	
	AM Peak	PM Peak	AM Peak	PM Peak
Section 1				
RM 620 WB / Pecan Park Boulevard	D	E	C	D
RM 620 EB / Pecan Park Boulevard	C	C	C	C
RM 620 / Deerbrook Trail	C	B	B	A
RM 620 / Great Valley Drive/Lake Creek Parkway	F	F	B	D
RM 620 / Hatch Road	E	C	B	B
RM 620 / El Salido Parkway	F	F	D	D
RM 620 / Anderson Mill Road (RM 2769)	F	F	F	F
RM 620 / H-E-B Drwy.	F	F	B	C
Section 2				
RM 620 / Buckner Road/Boulder Lane	F	F	D	D
RM 620 / Boulder Lane (South)	F	F	D	D
RM 620 / Concordia University Drive	F	F	B	D
RM 620 / Wilson Parke Avenue/Rock Harbour Drive	F	D	C	B
RM 620 / Four Points Drive	D	E	B	C
Section 3				
RM 620 / RM 2222	F	F	E	E
RM 620 / Comanche Trail	F	E	B	C
RM 620 / Quinlan Park Road	D	E	C	C
RM 620 / Marshall Ford Road	B	B	B	B
RM 2222 / River Place Boulevard	F	C	E	C
RM 2222 / Sitio Del Rio Boulevard	E	A	D	A
RM 2222 / McNeil Drive	F	C	F	C

2035 Build LOS – Long-Term Improvements

Intersection	Mid-Term		Long-Term	
	AM Peak	PM Peak	AM Peak	PM Peak
Section 1				
RM 620 WB / Pecan Park Boulevard	C	D	B	C
RM 620 EB / Pecan Park Boulevard	C	C	B	C
RM 620 / Deerbrook Trail	B	A	A	A
RM 620 / Great Valley Drive/Lake Creek Parkway	B	D	C	C
RM 620 / Hatch Road	B	B	A	A
RM 620 / El Salido Parkway	D	D	B	C
RM 620 / Anderson Mill Road (RM 2769)	F	F	E	D
RM 620 / H-E-B Drwy.	B	C	A	A
Section 2				
RM 620 / Buckner Road/Boulder Lane	D	D	B	B
RM 620 / Boulder Lane (South)	D	D	C	B
RM 620 / Concordia University Drive	B	D	A	B
RM 620 / Wilson Parke Avenue/Rock Harbour Drive	C	B	B	A
RM 620 / Four Points Drive	B	C	A	B
Section 3				
RM 620 / RM 2222	E	E	D	E
RM 620 / Comanche Trail	B	C	B	C
RM 620 / Quinlan Park Road	C	C	C	C
RM 620 / Marshall Ford Road	B	B	B	B
RM 2222 / River Place Boulevard	E	C	A	A
RM 2222 / Sitio Del Rio Boulevard	D	A	D	A
RM 2222 / McNeil Drive	F	C	C	C

Year 2035 AM Peak LOS: Sections 3 & 4 (Mid-Term)

Intersection	No-Build	Build
RM 620 / RM 2222	F	E
RM 620 / Comanche Trail	F	B
RM 620 / Quinlan Park Road	D	C
RM 620 / Marshall Ford Road	B	B
RM 2222 / River Place Boulevard	F	E
RM 2222 / Sitio Del Rio Boulevard	E	D
RM 2222 / McNeil Drive	F	F
RM 620 / Hudson Bend Road	D	C
RM 620 / General Williamson Drive	D	D

Year 2035 PM Peak LOS: Sections 3 & 4 (Mid-Term)

Intersection	No-Build	Build
RM 620 / RM 2222	F	E
RM 620 / Comanche Trail	E	C
RM 620 / Quinlan Park Road	E	C
RM 620 / Marshall Ford Road	B	B
RM 2222 / River Place Boulevard	C	C
RM 2222 / Sitio Del Rio Boulevard	A	A
RM 2222 / McNeil Drive	C	C
RM 620 / Hudson Bend Road	F	E
RM 620 / General Williamson Drive	E	D

Year 2035 AM Peak LOS: Sections 5 & 6

Intersection	No-Build	Build
RM 620 / Debba Drive	F	F
RM 620 / Kollmeyer Drive	E	E
RM 620 / Lakeway Boulevard	E	C
RM 620 / Lohmans Crossing Drive/Ameno Drive	F	C
RM 620 / Lohmans Spur Road	D	B
RM 620 / Flint Rock Road	F	B
RM 620 / Spillman Loop/Honey Creek Court	F	C
RM 620 / Cavalier Drive/Aria Drive	F	E
RM 620 / Falcon Head Boulevard	D	B
RM 620 / Ladera Boulevard	D	A
RM 620 / Bee Cave Parkway	F	F
RM 620 / SH 71	D	D

Year 2035 PM Peak LOS: Sections 5 & 6

Intersection	No-Build	Build
RM 620 / Debba Drive	F	D
RM 620 / Kollmeyer Drive	E	E
RM 620 / Lakeway Boulevard	F	C
RM 620 / Lohmans Crossing Drive/Ameno Drive	F	D
RM 620 / Lohmans Spur Road	E	B
RM 620 / Flint Rock Road	F	B
RM 620 / Spillman Loop/Honey Creek Court	E	A
RM 620 / Cavalier Drive/Aria Drive	F	C
RM 620 / Falcon Head Boulevard	E	B
RM 620 / Ladera Boulevard	F	B
RM 620 / Bee Cave Parkway	F	E
RM 620 / SH 71	F	F

Cost Estimates

Improvement	Cost (Y2015 \$)
RM 620 Widening (Limits)	
Between Colorado River Bridge and Lakeway Boulevard	\$21,677,200
Between Lakeway Boulevard and SH 71	\$50,047,300
Intersection Improvements (e.g., turn bays, re-striping)	\$1,112,300
Total	\$72,836,800

DISCLAIMER: Cost estimates are for planning purposes only, and actual construction costs may differ.

Costs vs. Benefits

- Est. costs of improvements: \$73 million (subject to change after construction plans are finalized)
- Benefits calculated using Year 2035 AM peak and PM peak hour traffic models and the differences in intersection delay between the No-Build and the Build scenarios
- The following assumptions were made as part of the benefits analysis
 - Value of time = \$17.67 (based on value used by Texas Transportation Institute)
 - AM peak and PM peak hour delay savings each realized over 3 hours per day for 250 days per year
- Estimated benefits realized in Year 2035 alone: \$36 million



EXAMPLES OF DIVIDED ROADWAYS

Left-In/Right-In/Right-Out Driveways (RM 1431, Cedar Park)



Opposing Hooded Left Turns (RM 1431, Cedar Park)



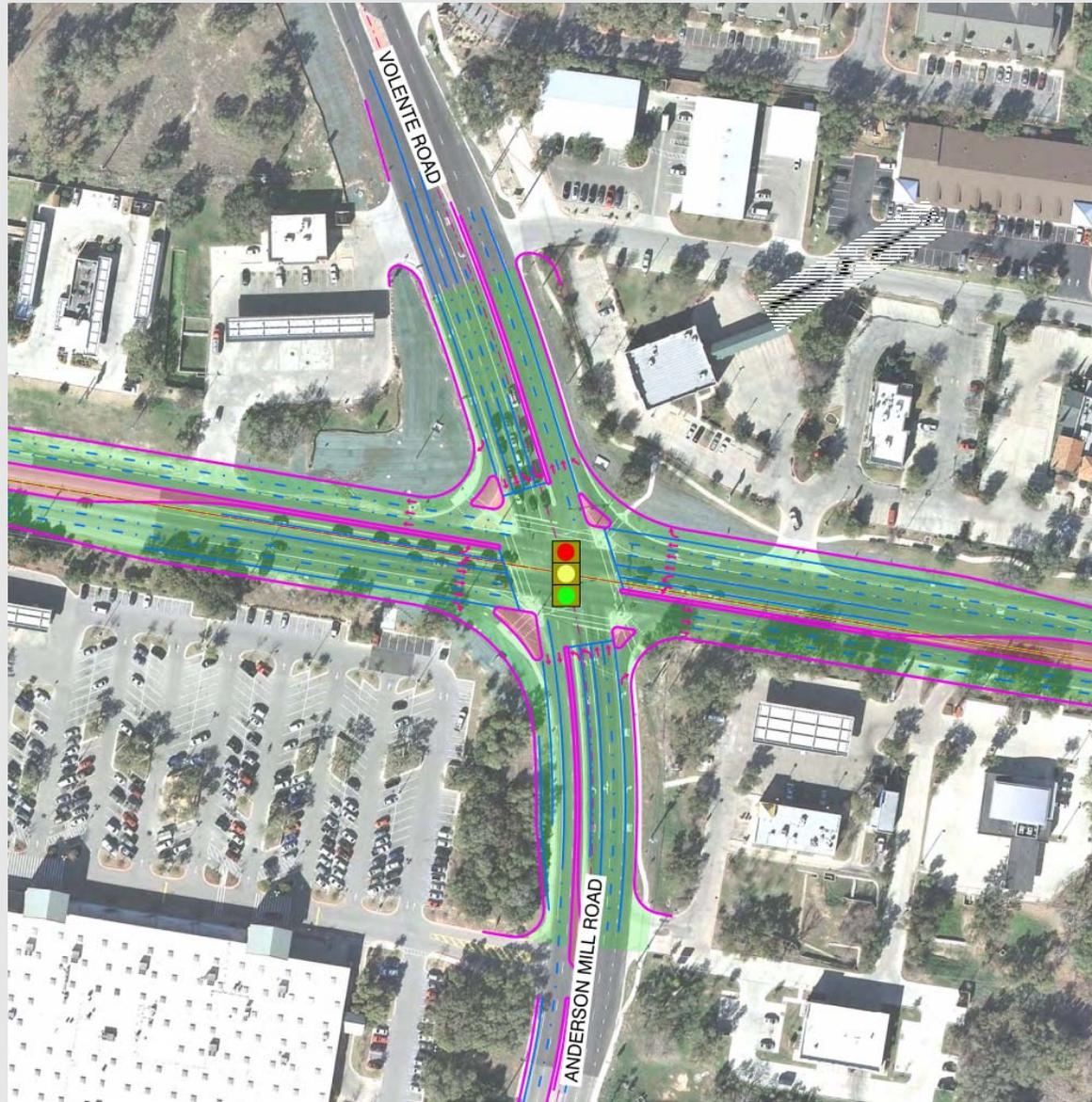
Full-Purpose Driveway Intersection (RM 1431, Cedar Park)



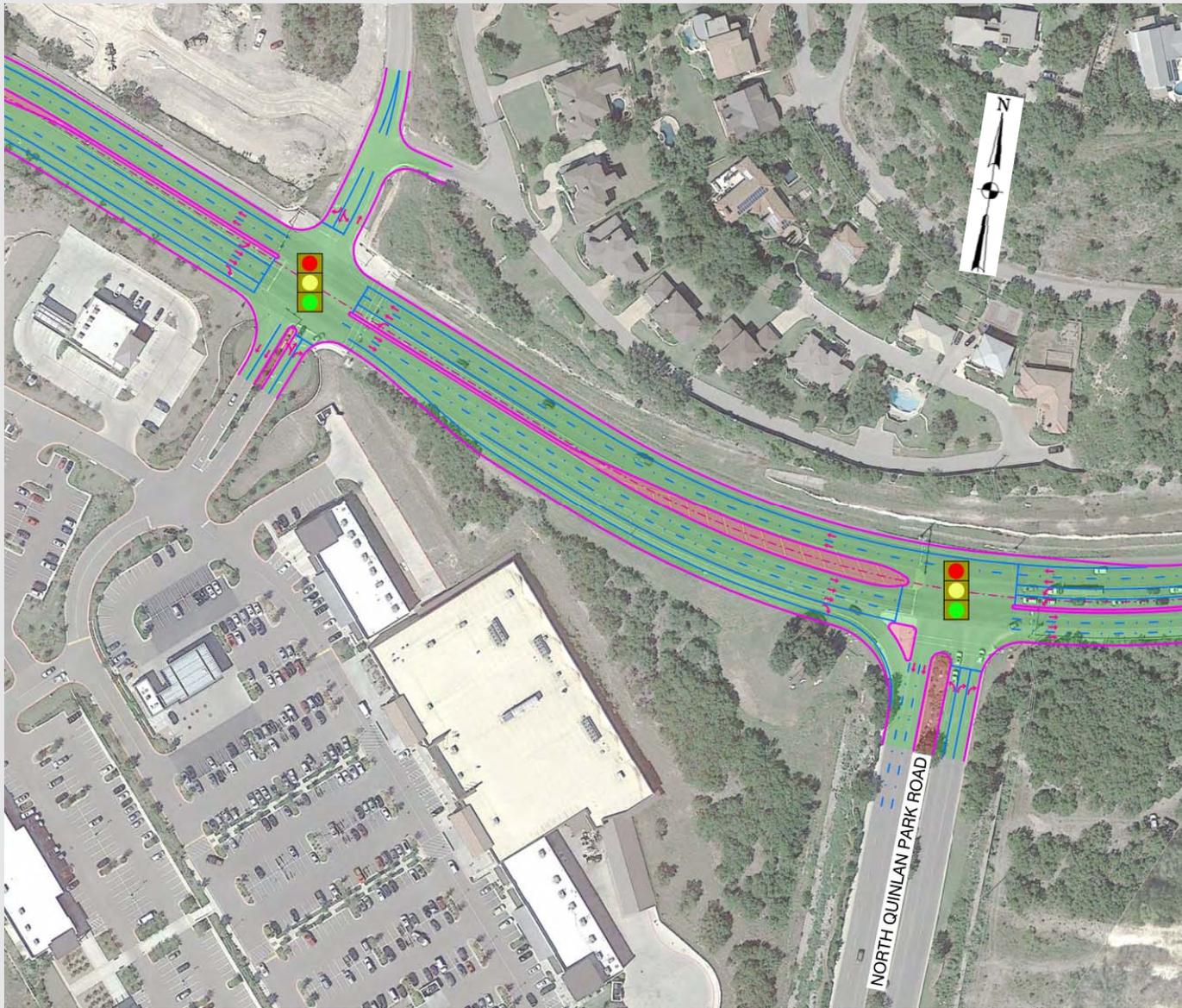


POSSIBLE INTERSECTION IMPROVEMENTS

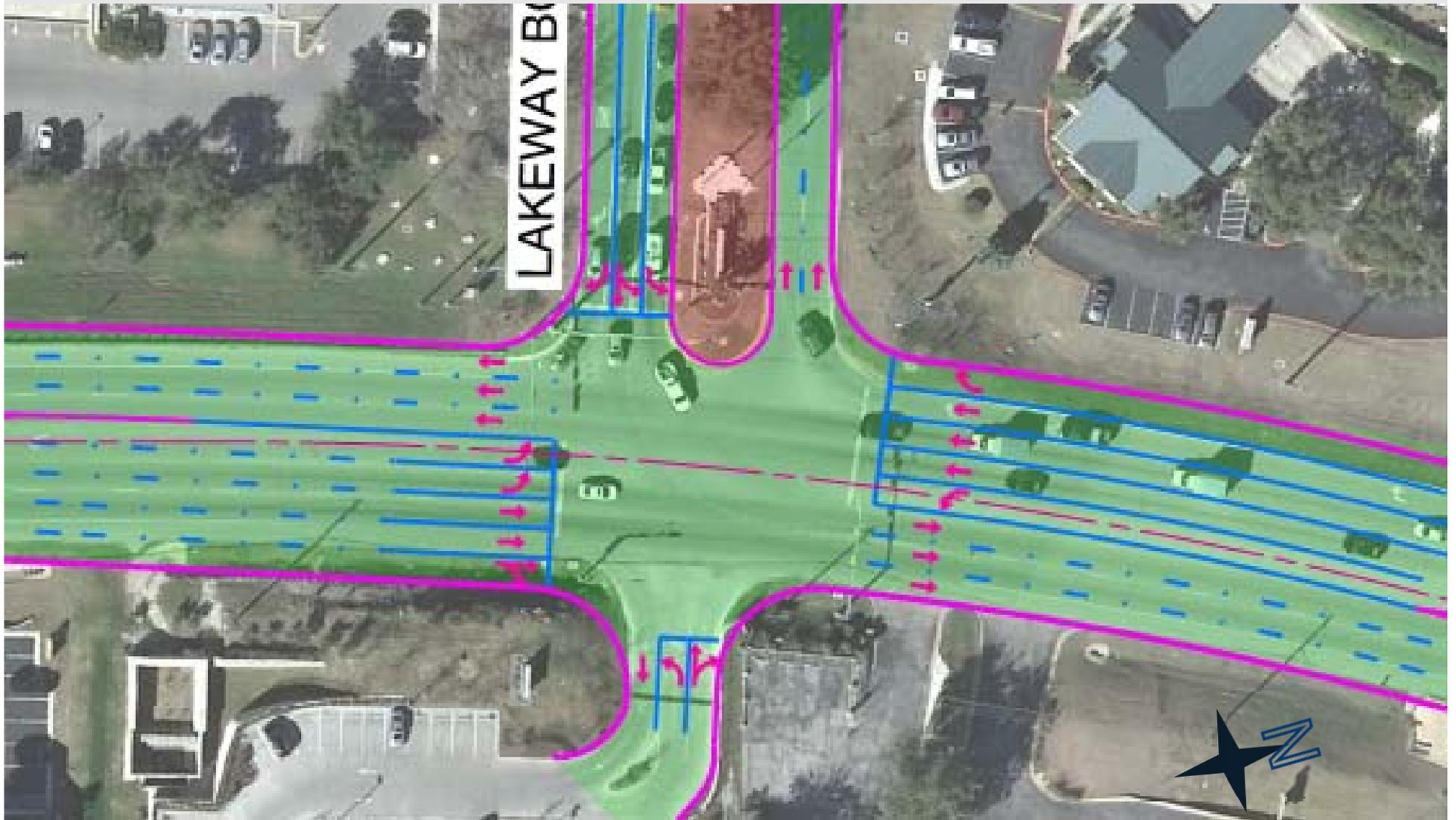
Possible Build-Out of Anderson Mill Road Intersection



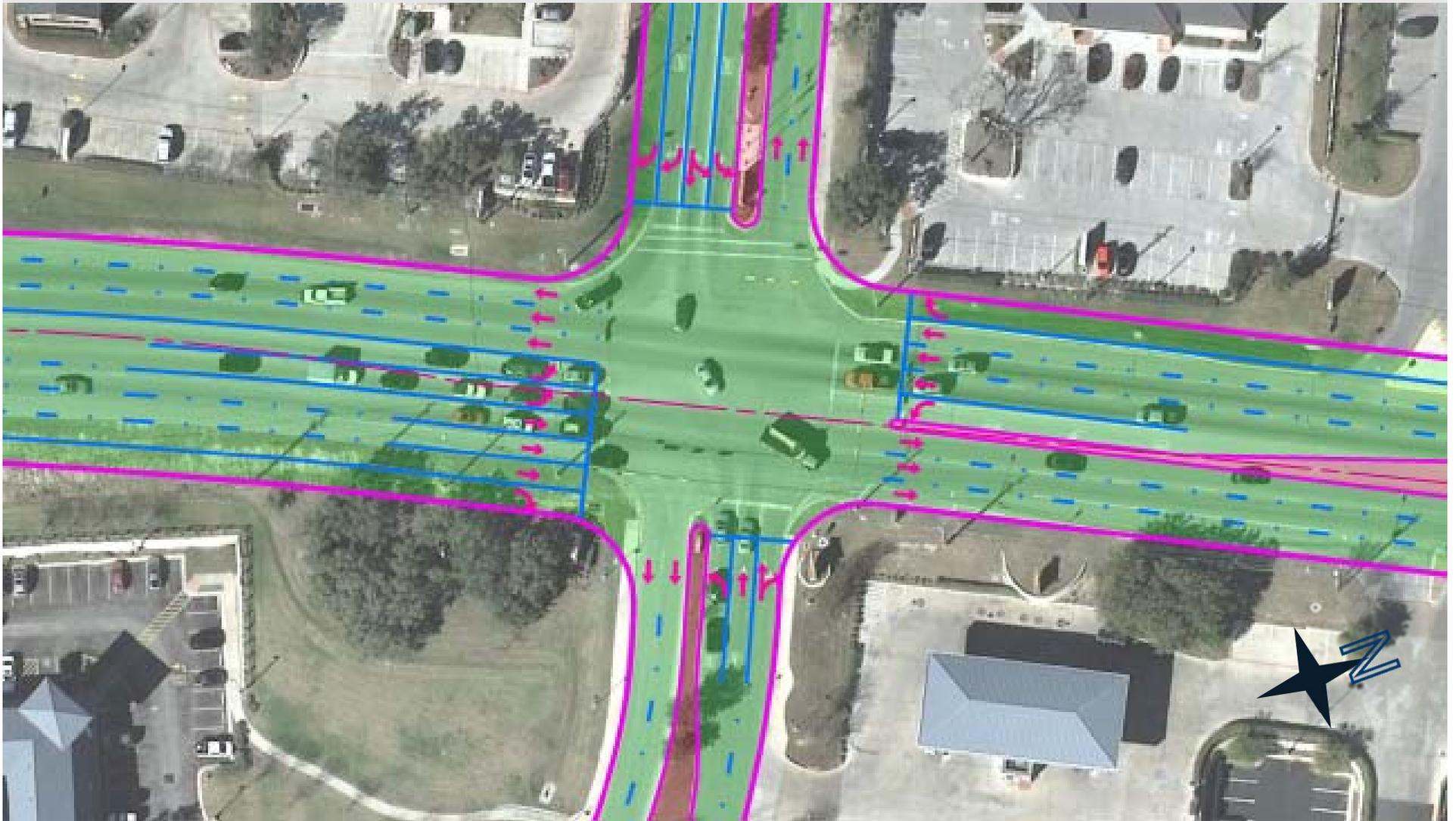
Possible Build-Out of Quinlan Park Road Intersection



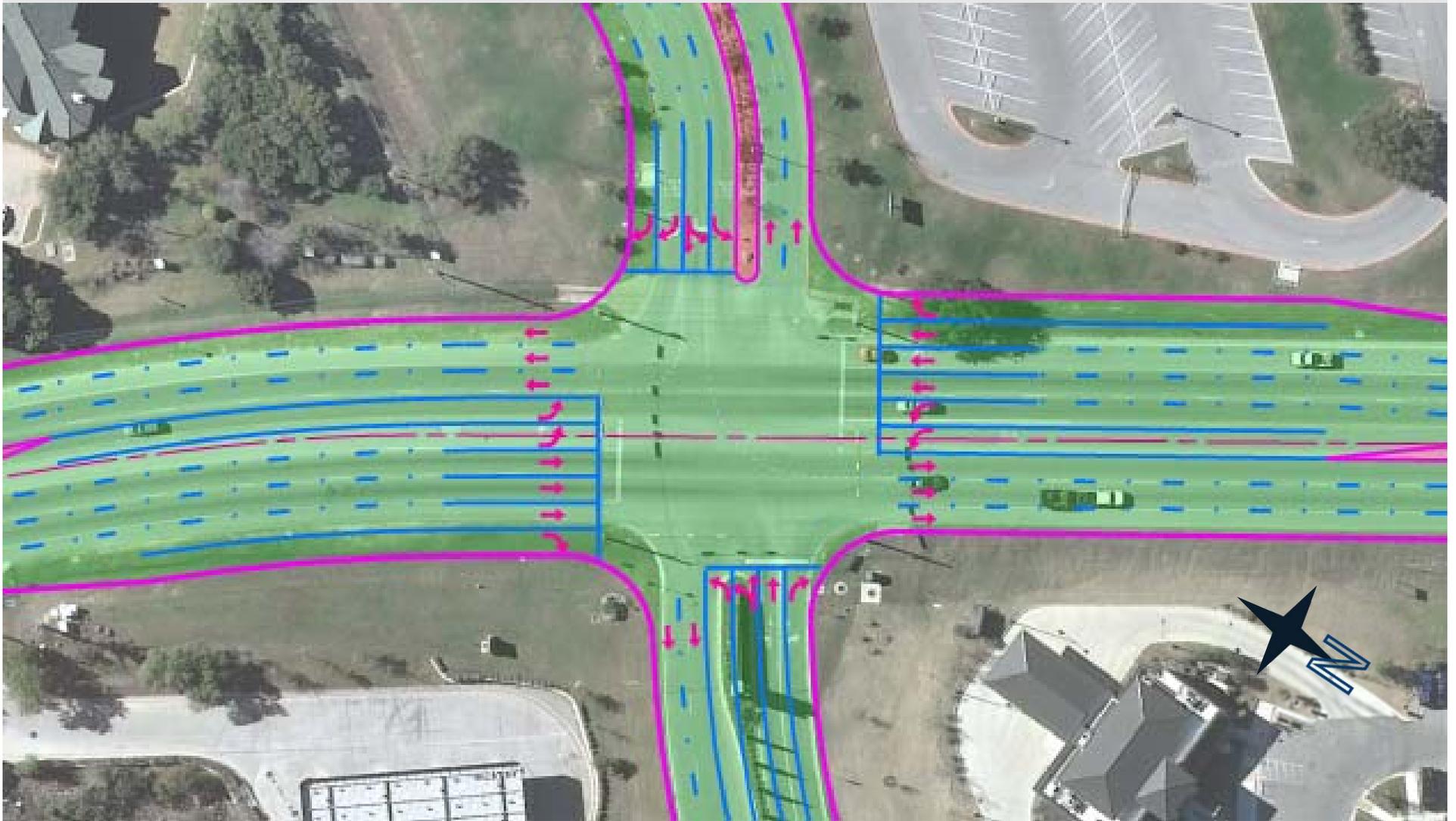
RM 620 & Lakeway Boulevard



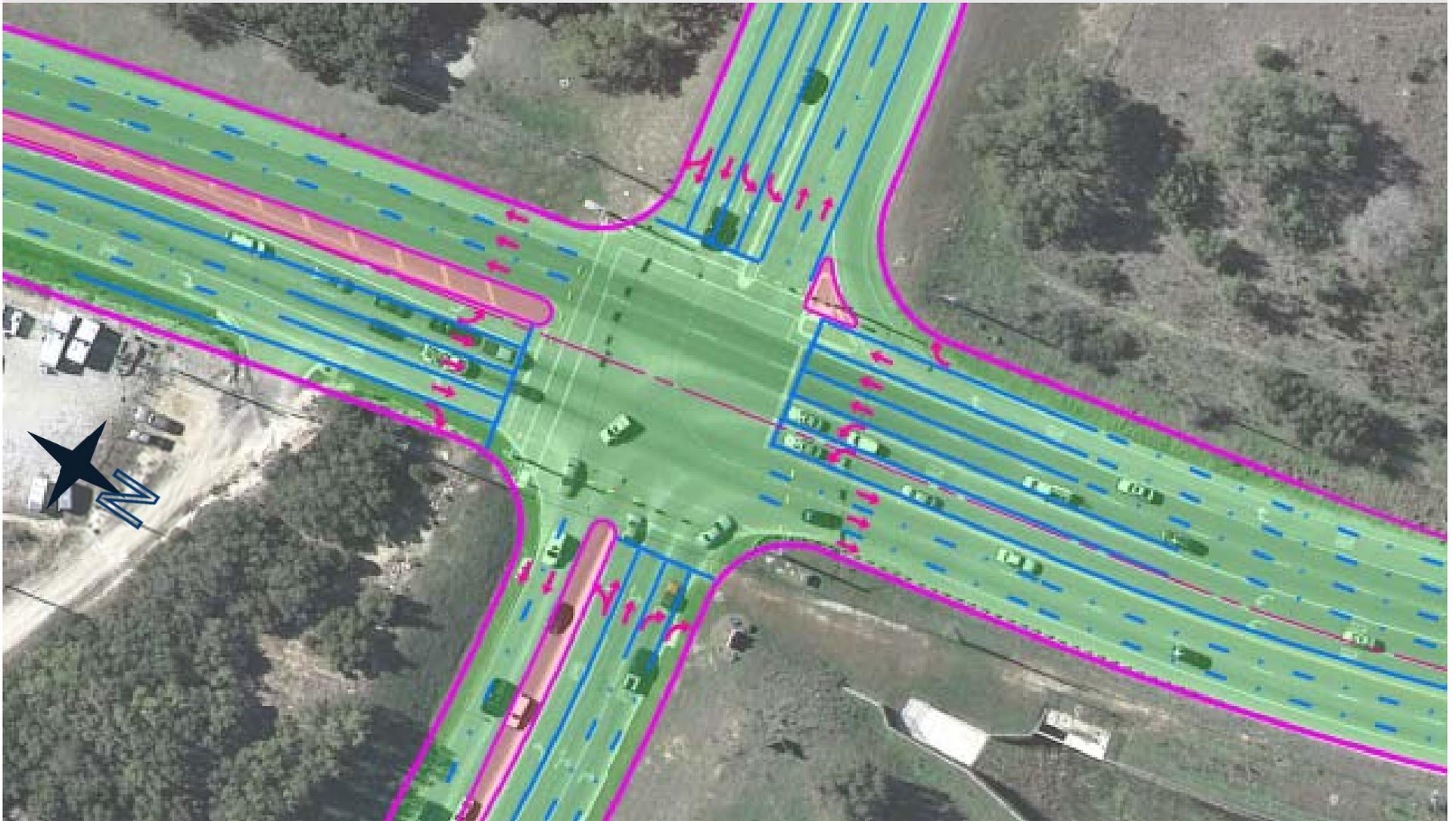
RM 620 & Lohmans Crossing Road/Ameno Drive



RM 620 & Cavalier Drive/Aria Drive



RM 620 & Bee Cave Parkway



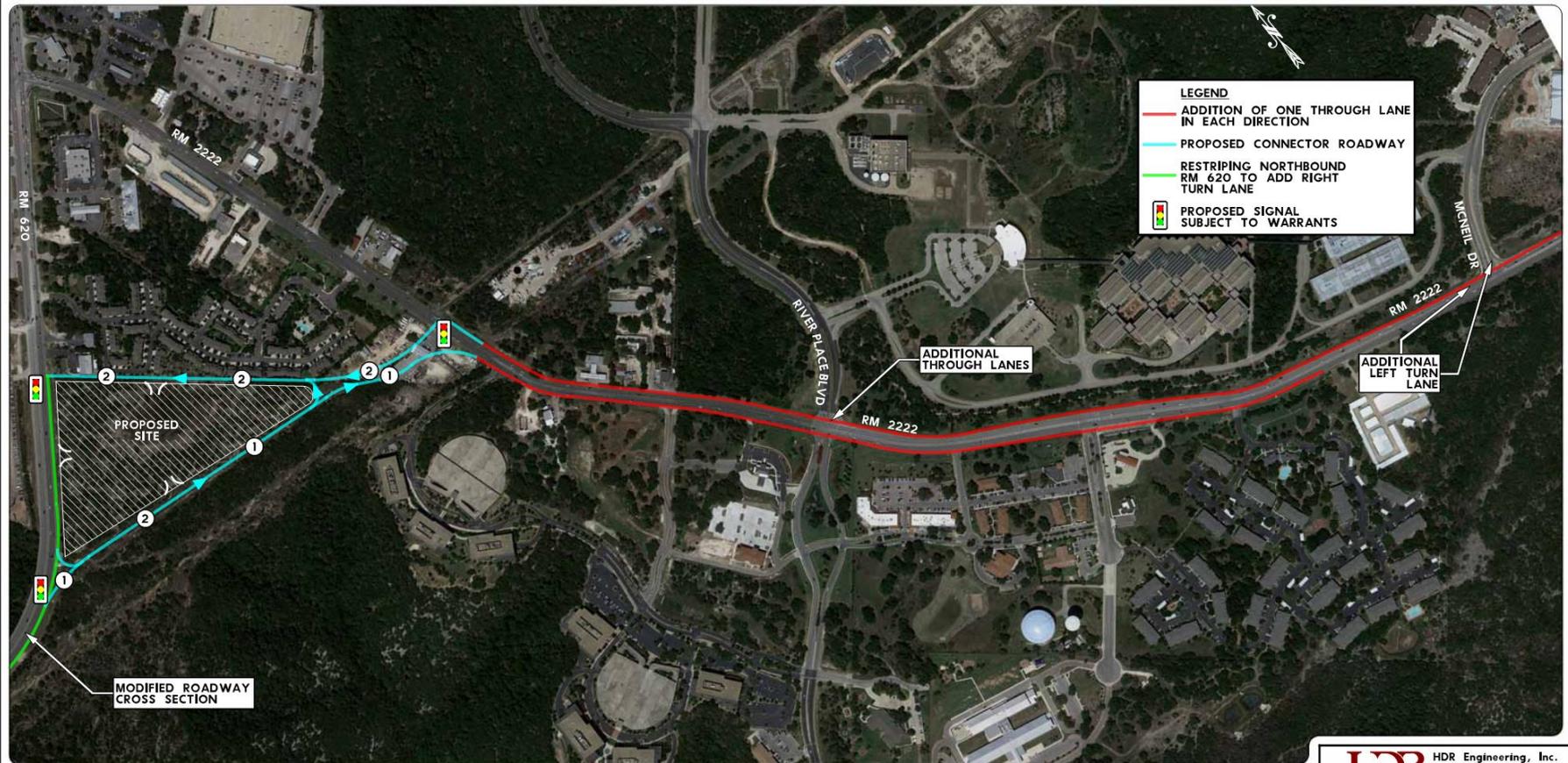
Possible Intersection Improvements

Intersection	Possible Improvement
RM 620 / Debba Drive	<ul style="list-style-type: none"> - WB right-turn bay - NB right-turn bay - Remove EB/WB split-phasing
RM 620 / Kollmeyer Drive	
RM 620 / Lakeway Boulevard	<ul style="list-style-type: none"> - Additional NB left-turn lane
RM 620 / Lohmans Crossing Drive/Ameno Drive	<ul style="list-style-type: none"> - Additional EB right-turn lane - Additional NB left-turn lane - Additional NB and SB right-turn lanes
RM 620 / Lohmans Spur Road	<ul style="list-style-type: none"> - Remove EB/WB split-phasing
RM 620 / Flint Rock Road	<ul style="list-style-type: none"> - Remove Flint Rock Rd. EB/WB protected LT phasing and convert to split-phasing - EB right-turn overlap
RM 620 / Spillman Loop/Honey Creek Court	<ul style="list-style-type: none"> - Free SB right-turn movement
RM 620 / Cavalier Drive/Aria Drive	<ul style="list-style-type: none"> - Additional SB left-turn lane - Additional NB right-turn lane - Additional EB right-turn lane - Conversion of WB approach to LT-LT/T-T-RT lane configuration - Extended NB left-turn lane striping
RM 620 / Falcon Head Boulevard	<ul style="list-style-type: none"> - Dual NB left-turn - Dual EB left-turn - SB right-turn lane - Remove EB/WB split-phasing
RM 620 / Ladera Boulevard	<ul style="list-style-type: none"> - Dual EB left-turn - SB right-turn lane - Remove EB/WB split-phasing
RM 620 / Bee Cave Parkway	<ul style="list-style-type: none"> - Exclusive dual WB right-turn lanes - Exclusive dual EB left-turn lanes
RM 620 / SH 71	<ul style="list-style-type: none"> - Triple SB left-turn



RM 620 – RM 2222 BYPASS

Proposed 620 – 2222 Connector



HDR HDR Engineering, Inc.
204 Eastview Street, Suite 1175
Austin, Texas 78701
TSP# Perm Registration No. 734

**POTENTIAL
ALTERNATIVE
IMPROVEMENTS ALONG
RM 2222 AND RM 620**

Connector - Forecasted Conditions Year 2020

Intersection
Level of Service
(Control Delay per
Vehicle in Seconds)

A ≤ 10

B >10
≤20

C >20
≤35

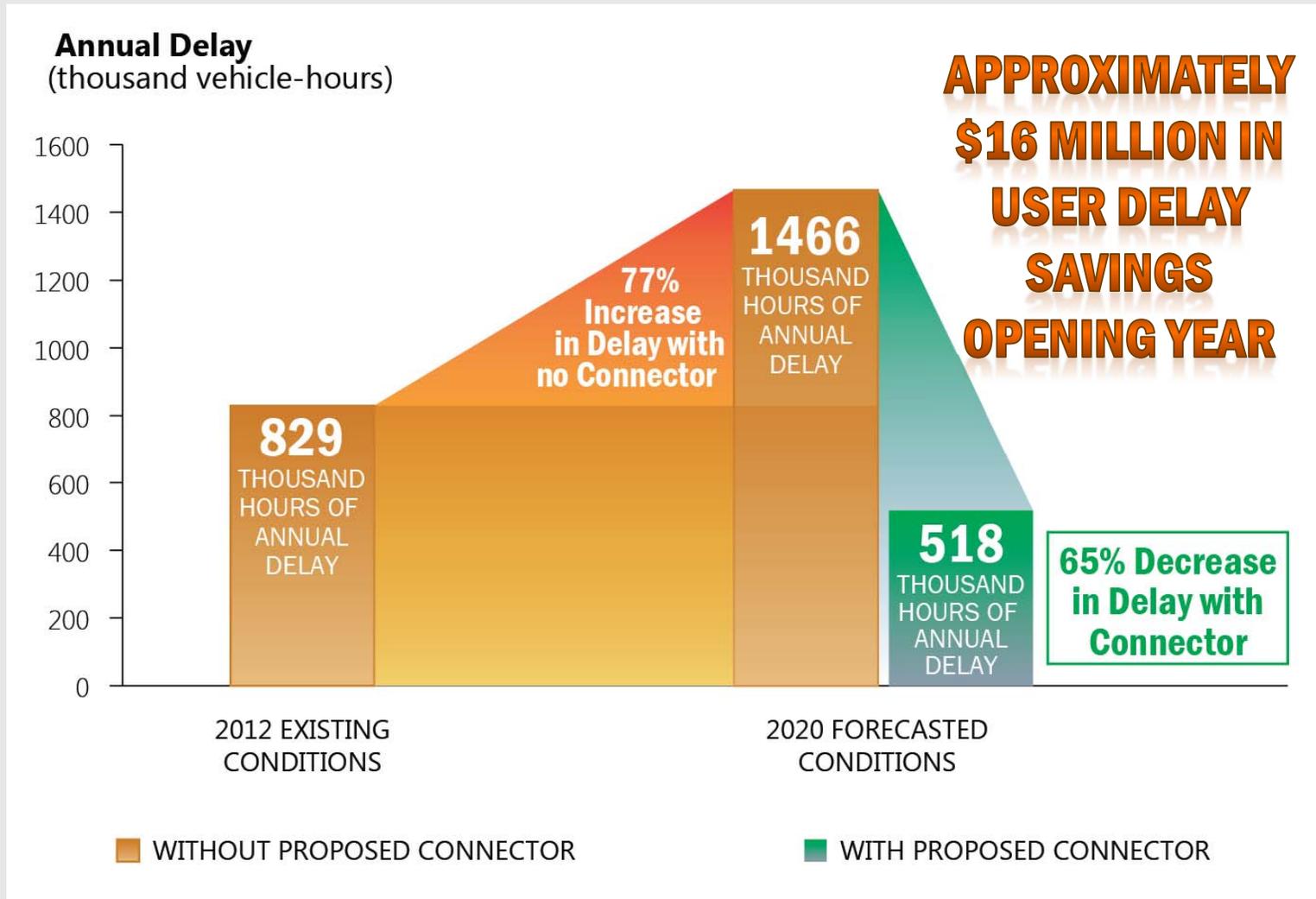
D >35
≤55

E >55
≤80

F >80

Intersection	Delay per Vehicle (sec) / Level of Service	
	Without Proposed RM 620/ RM 2222 Connector	With Proposed RM 620/ RM 2222 Connector
AM Peak Period		
RM 620 & RM 2222	128.7 / F	66.2 / E
RM 2222 & River Place Blvd.	127.1 / F	46.5 / D
RM 2222 & McNeil Dr.	57.2 / E	16.9 / B
PM Peak Period		
RM 620 & RM 2222	69.9 / E	39.6 / D
RM 2222 & River Place Blvd.	54.7 / D	25.8 / C
RM 2222 & McNeil Dr.	90.8 / F	15.8 / B

Connector - Network Delay





**For further
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512-832-7107**
