



City of Colleyville City Council Worksession Agenda

City Hall
100 Main Street
Colleyville, Texas 76034
817.503.1000
www.colleyville.com

Tuesday, July 28, 2015
6:00 p.m.

Executive Conference Room
Third Floor, City Hall

1. CALL TO ORDER

2. PRESENTATION AND DISCUSSION

2a Presentation and discussion of the Glade Road project

3. ADJOURNMENT

I hereby certify this agenda was posted on City Hall bulletin boards Friday, July 24, 2015, by 5:00 p.m.

Amy Shelley, TRMC
City Secretary

Any matter on this agenda may, at the discretion of the governing body, be opened for public comment and discussion.

If you plan to attend this public meeting and have a disability that requires special accommodations, please advise the City Secretary at least 48 hours in advance at 817.503.1133, and reasonable accommodations will be made to assist you.



City of Colleyville Colleyville City Council Worksession Agenda Briefing

City Hall
100 Main Street
Colleyville, Texas 76034
www.colleyville.com

Agenda Number 2a

Agenda Date 07/28/2015

Number

Type Pre Council

Department Public Works

Title

Presentation and discussion of the Glade Road project

Strategy Map Connection

F2- Invest to provide and maintain high quality public assets

Explanation

At the request of the City Council, the following is provided to allow for discussion of the Glade Road Project. City Staff will present a presentation covering:

- Phase 1 update
- Clarification and discussion of what is included in preliminary design versus final design
- The remaining sections of the Glade Road corridor
- Available funding sources
- Possible phasing scenario
- Interim maintenance needs

As a point of reference for the City Council, the past Glade Road Project presentations are attached to this briefing. They include:

- November 12, 2012
- May 7, 2013
- November 5, 2013
- March 3, 2014
- October 21, 2014
- April 16 2014
- June 17, 2014
- June 2, 2015

City staff is seeking City Council guidance regarding how to proceed with the remaining sections of the Glade Road corridor.

Attachments

1. July 28, 2015 Presentation
2. November 12, 2012 Glade Road Corridor Study Presentation
3. May 7, 2013 Glade Road Presentation
4. November 5, 2013 Glade Road Presentation
5. March 3, 2014 Glade Road Presentation

6. October 21, 2014 Glade Road Project Update Presentation
7. April 16, 2014 Glade Road Presentation
8. June 17, 2014 Glade Road Presentation
9. June 2, 2015 Glade Road Presentation



Discussion of the Glade Road Project

**City Council
Worksession
July 28, 2015**

Scope of Worksession



- Project History
 - Summary of Past Efforts
- Phase 1 Update
 - Bransford Road to Manning Drive
- Clarification and Discussion
 - Preliminary/Conceptual Design Phase
 - Final Design Phase
- Phases of the Corridor
 - Key Components
 - Possible Design Parameters
- Possible Funding Sources
- Possible Phasing Scenario
- Need for an Interim Solution
 - Existing Pavement Condition

Project History



October 5, 2011 – Pre Council presentation on the Glade Road and Bluebonnet Road intersection

May 23, 2013 – Initial Public Input Meeting

November 18, 2013 – Second Public Input Meeting (concept designs presented)

June 30, 2014 – Council Worksession to discuss the project. Council provided direction to proceed with the final design of the section between Bransford Road and Manning Drive

July 15, 2014 – Approval of a final design contract for the section between Bransford Road and Manning Drive

October 21, 2014 – Pre Council discussion and project design placed on hold

June 2, 2015 – Pre Council discussion and project was released to proceed with the design of Phase 1

Phase 1

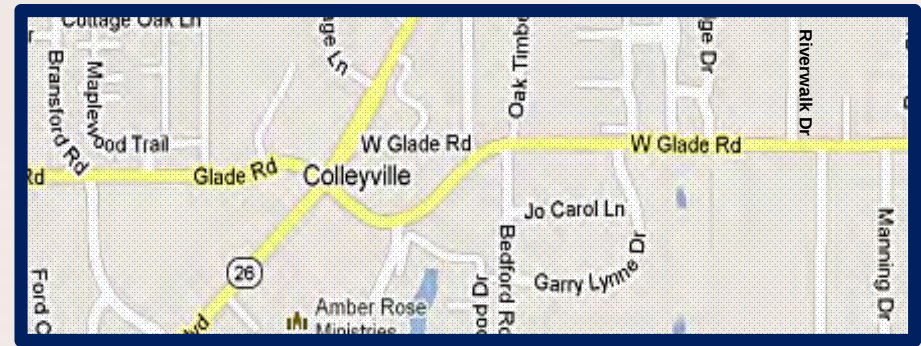


Phase 1 Includes

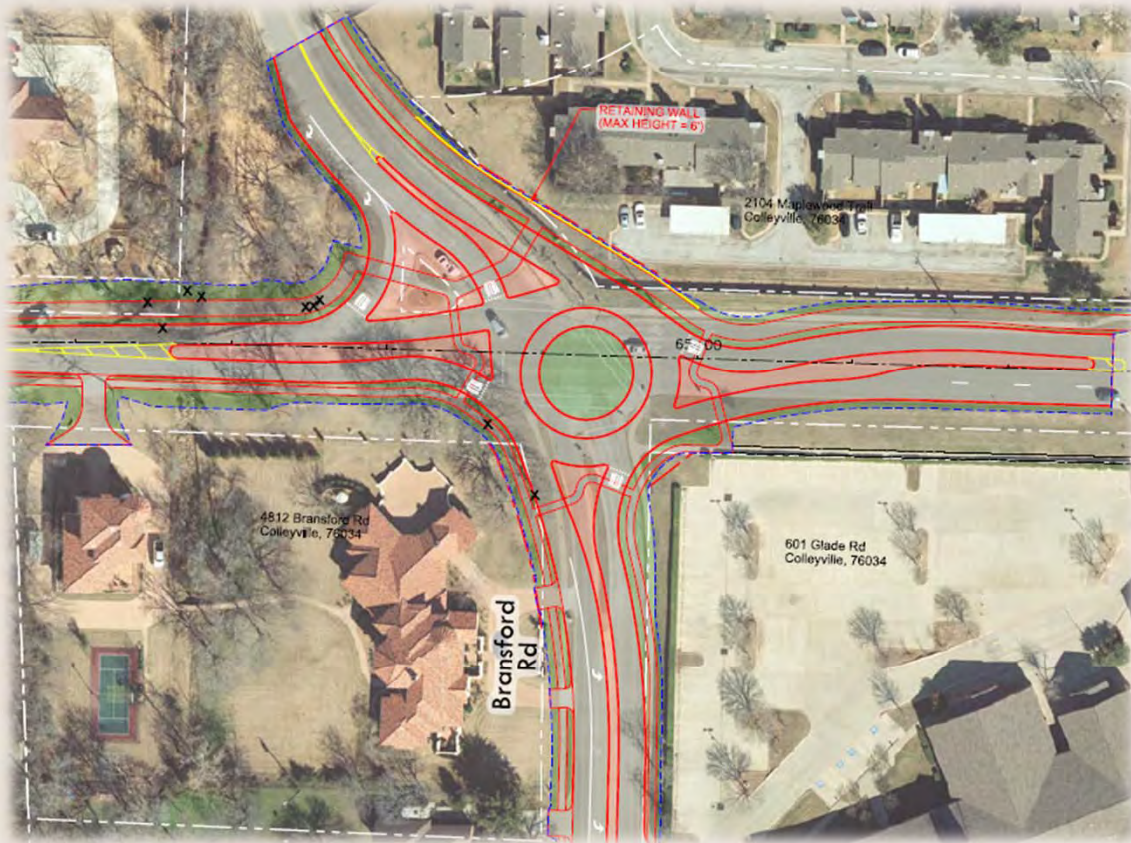


The section of Glade Road from Bransford Road to Manning Drive, includes:

- Roundabout at Bransford Road Intersection
- Realignment of Bedford Road Intersection
- Roundabout at Riverwalk Drive Intersection
- Address the undersized box culverts under Glade Road at Riverwalk Drive (drainage issue)
- Lowering of the road at Bluebonnet Drive to allow for improved sight distance and the removal of the stop signs along Glade Road



Phase 1 Includes



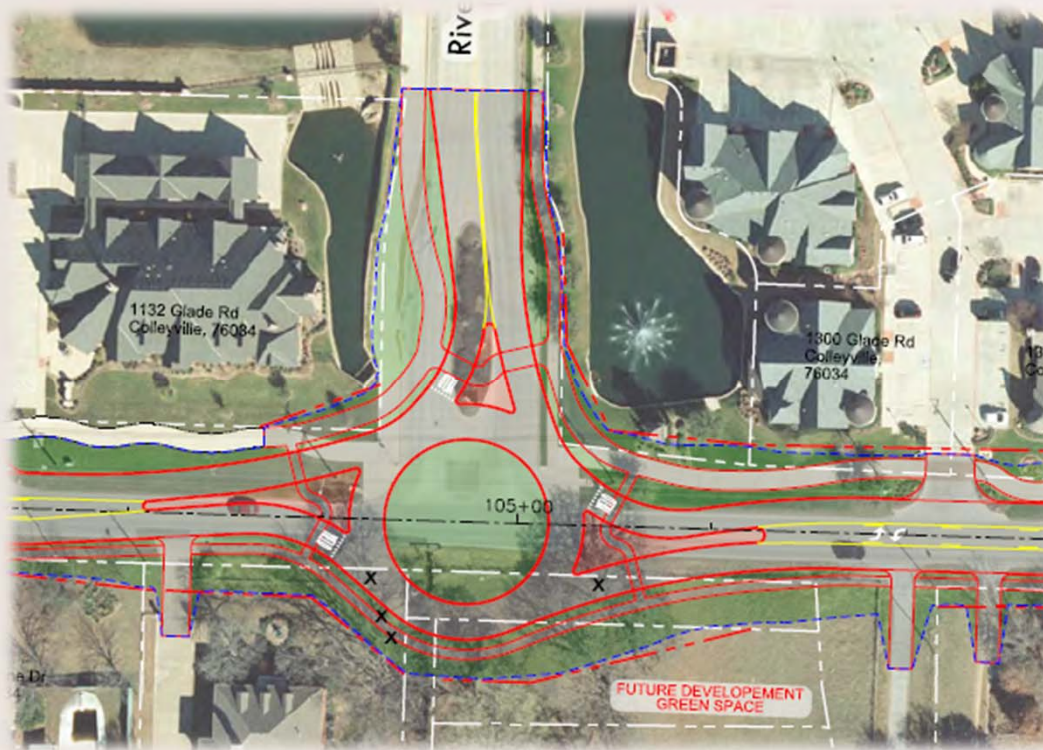
Roundabout at Bransford Road Intersection

Phase 1 Includes



***Realignment of Bedford
Road Intersection***

Phase 1 Includes



***Intersection Roundabout at Riverwalk
Drive Intersection***

Phase 1



As the project moves forward the next major milestones for Phase 1 include:

July 2015	Completion of the 30% Plans and Draft Right-of-Way Plans	January 2016	Completion of the 90% Plans
August 2015	Completion of the Utility Conflict Plans	March 2016	Completion of the Contract Documents and Plans
August 2015	Initiation of Franchise Utility Relocation	March 2016	Project Bidding Process
September 2015	Presentation of the Plans to City Council	April 2016	City Council Award of Contract
September 2015	Completion of the Right-of-Way Plans and Documents	May 2016	Public Meeting with Contractor
November 2015	Completion of the 60% Plans	May 2016	Construction of Phase 1 Begins
		June 2017	Construction of Phase 1 Complete

Preliminary & Final Design



- Preliminary/Conceptual Design
 - performed for the entire corridor
- Final Design
 - currently underway for Phase 1



Preliminary & Final Design



- Preliminary/Conceptual Design
 - performed for the entire corridor
- Final Design
 - currently underway for Phase 1



Preliminary/Conceptual Design



- Preliminary/Conceptual Design includes:
 - Conceptual layout of the proposed roadway improvements
 - Locations of needed items such as, dedicated turn lanes, center turn lanes, intersection improvements
 - Estimates the need for additional rights-of-way
 - Provides an estimated opinion of cost for the improvements

Preliminary/Conceptual Design



**Preliminary or
Conceptual Design**
(performed for the entire corridor)

Final Design



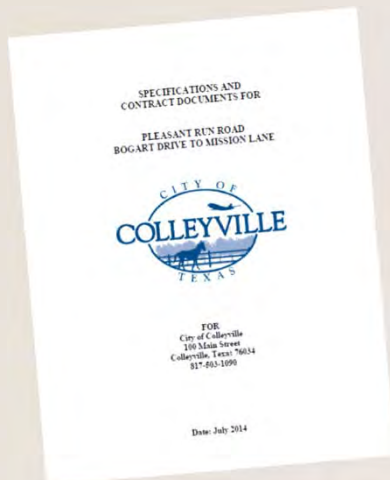
- Final Design includes
 - Design parameters established and incorporated into the design
 - City provided guidance to the design engineer that helps define the project. Examples include:
 - ***Utilize the existing infrastructure as much as possible to reduce the scope of the project and cost of construction***
 - ***Minimize impacts to trees***
 - ***Fluctuate trail width between 8' and 10' to accommodate existing trees, but maintain a minimum of 8' in width at all times***
 - Engineered Construction Documents
 - Detailed design of the underground infrastructure (water lines, sewer lines, drainage systems)
 - Plans and Profiles for the proposed street
 - Traffic Control Plan
 - Tree Protection and Removal Plan
 - Contracts and Specifications specific to the project
 - Right-of-Way Plans and survey grade documents

Different Levels of Design

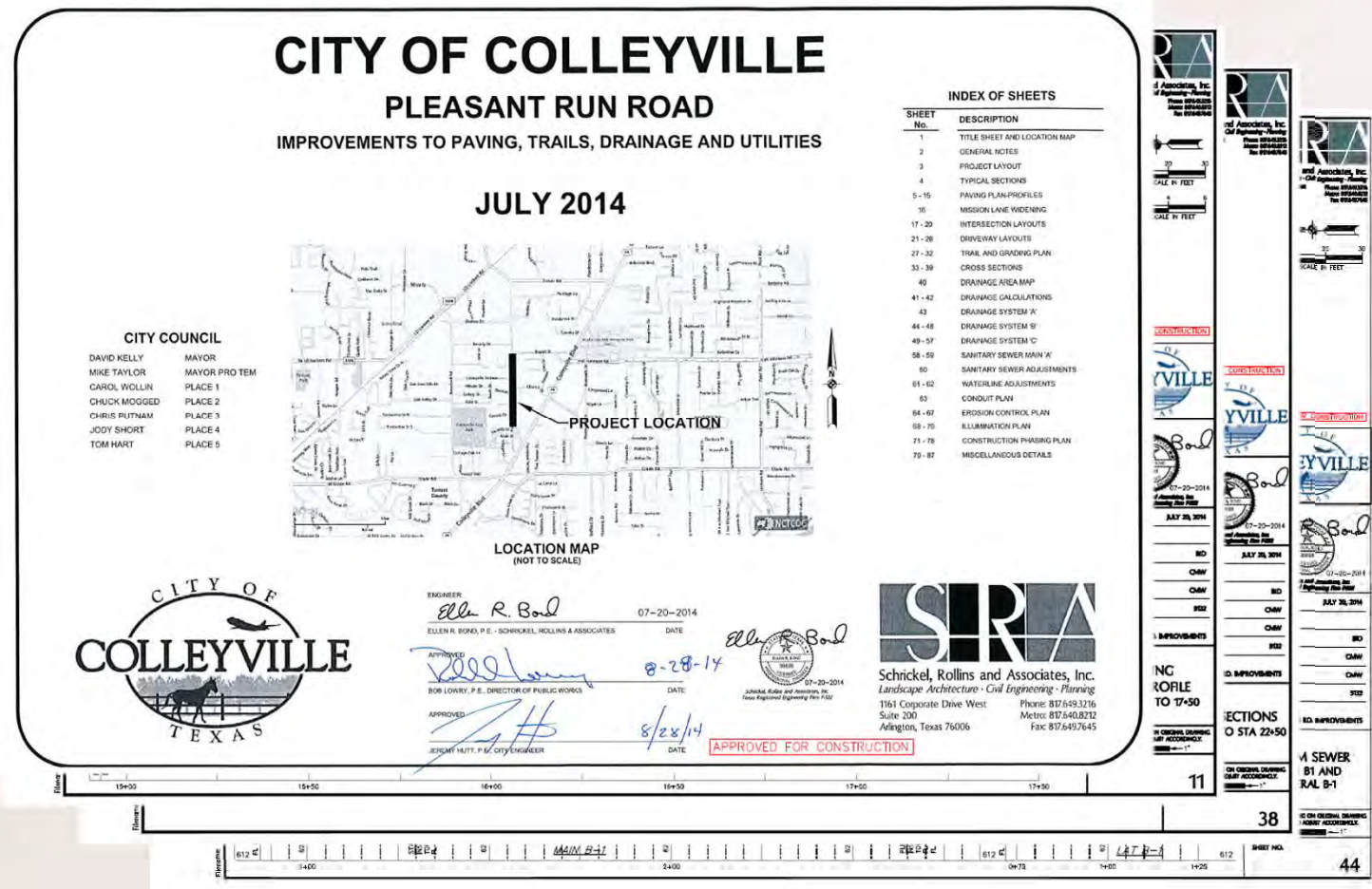


Final Design

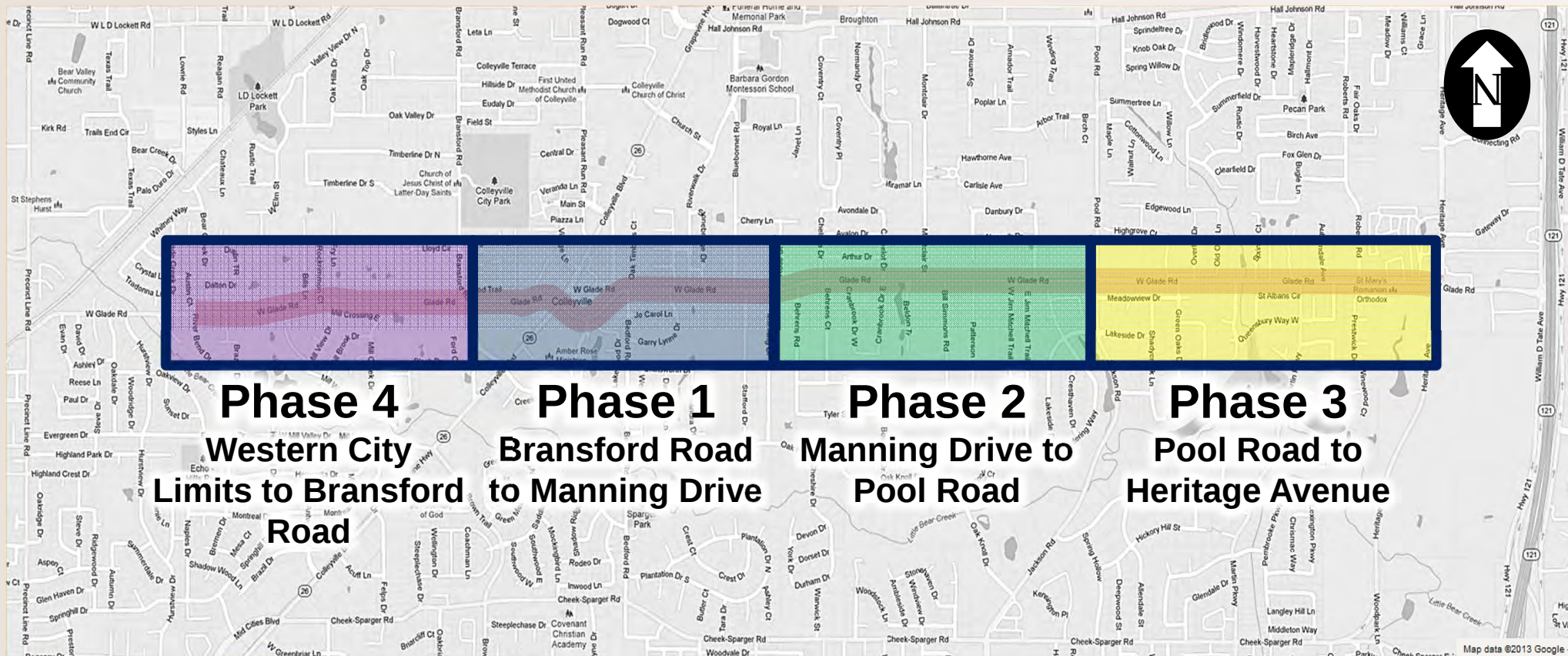
(Underway for Phase 1)



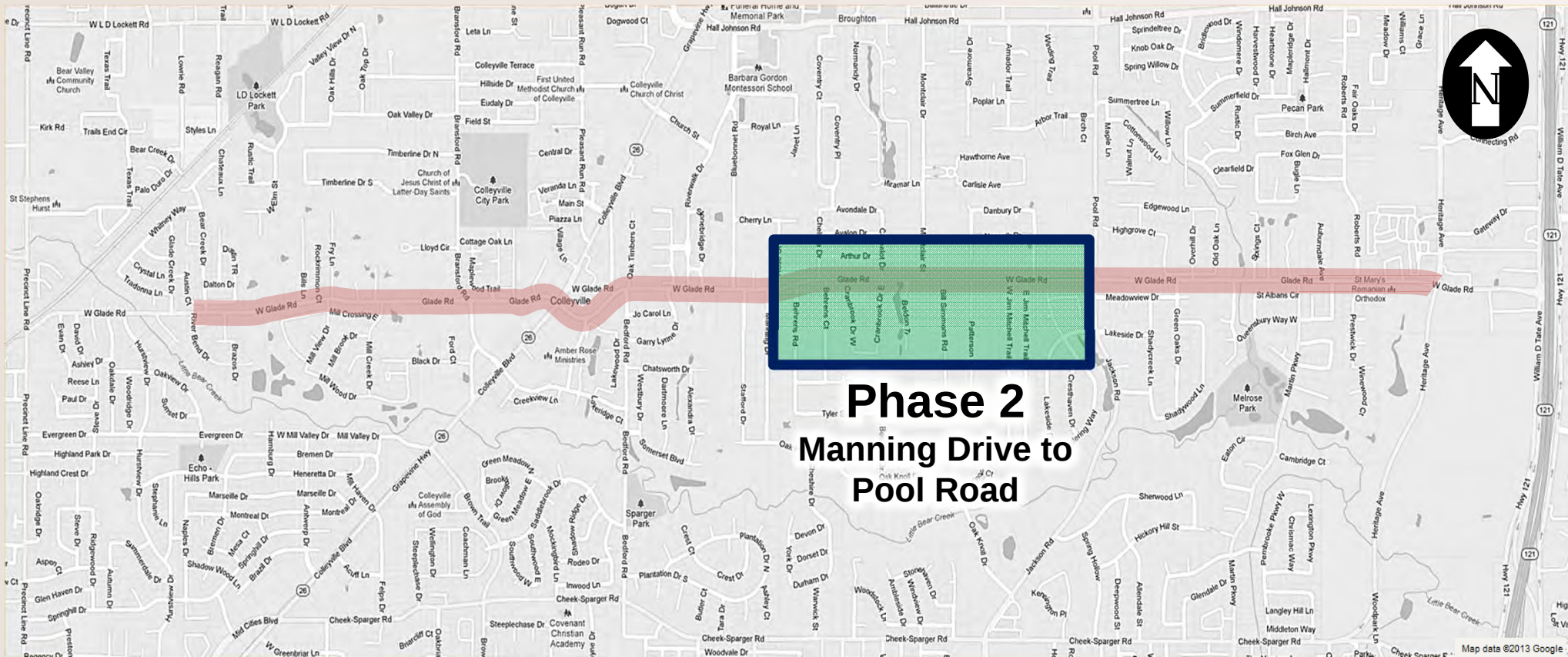
Project Contract and
Specifications



Phases of Glade Road Corridor



Phase 2 (Manning Drive to Pool Road)



Phase 2 (Manning Drive to Pool Road)



Glade Road from Manning Drive to Pool Road, key components include:



- Engineered drainage system designed to accommodate a 100 year storm using concrete curbs and gutters

- A center turn lane between Behrens Road and Chelsea Drive

- Two lane section for the majority of the section between Chelsea Drive and Camelot Drive to reduce right-of-way impacts

- Eastbound dedicated left turn lane for Camelot Drive

- Center turn lane for the section between Camelot Drive to Montclair Drive

- Two lane section from Montclair Drive to Jim Mitchell Trail West

- West bound dedicated left turn lane for Jim Mitchell Trail West

- Center turn lane between Jim Mitchell Trail East and Summerbrook Drive

- Eastbound dedicated left turn lane for the Senior Center

- 5' sidewalk on the south side

- 10' trail on the north side

- Street lighting at intersections

- Pedestrian (low level) lighting along the trail

Phase 2 (Manning Drive to Pool Road)



Glade Road from Manning Drive to Pool Road

Scope Includes - All new pavement with left turn lanes where warranted and standard curb and gutters. A 10' trail on the north side and 5' sidewalk on the south side.



Estimated Final Design Cost	\$ 460,000*
Estimated Construction Cost	\$5,484,000*
Estimated Right-of-Way Costs	\$ 430,000*
Estimated Number of Right-of-Way Parcels Needed	27*
Estimated Right-of-Way acquisition and Final Design Duration	12 Months*
Estimated Construction Duration	16 Months*

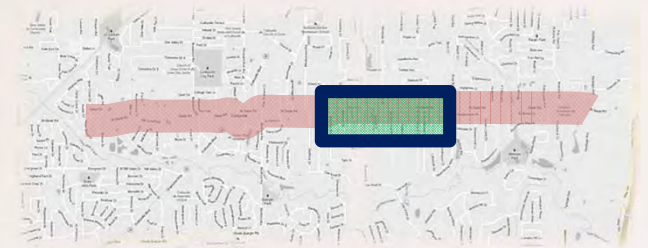
****Based on Preliminary design (does not include design parameters)***

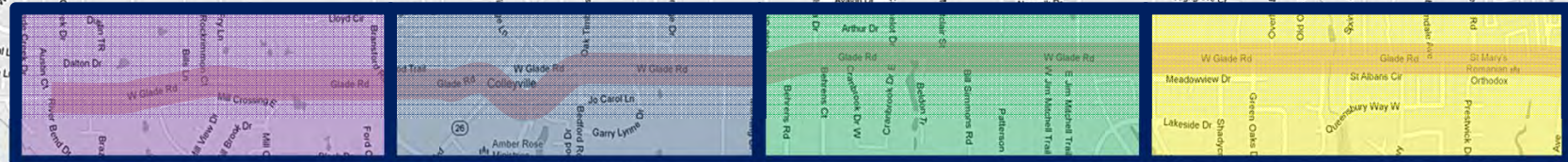
Phase 2 (Manning Drive to Pool Road)



Design parameters could include the following:

- Reduced trail width (10' to 8') to limit the possible right-of-way impact
- Construct the trail adjacent to the back of curb to reduce the possible right-of-way impact
- Utilize existing curb and gutter on south side of Glade (approximately 18%), where feasible
- Alternate trail alignment - constructing a 5' sidewalk on the north side and placing the 10' trail on the south side from the proposed Riverwalk intersection roundabout to the existing Pool intersection roundabout





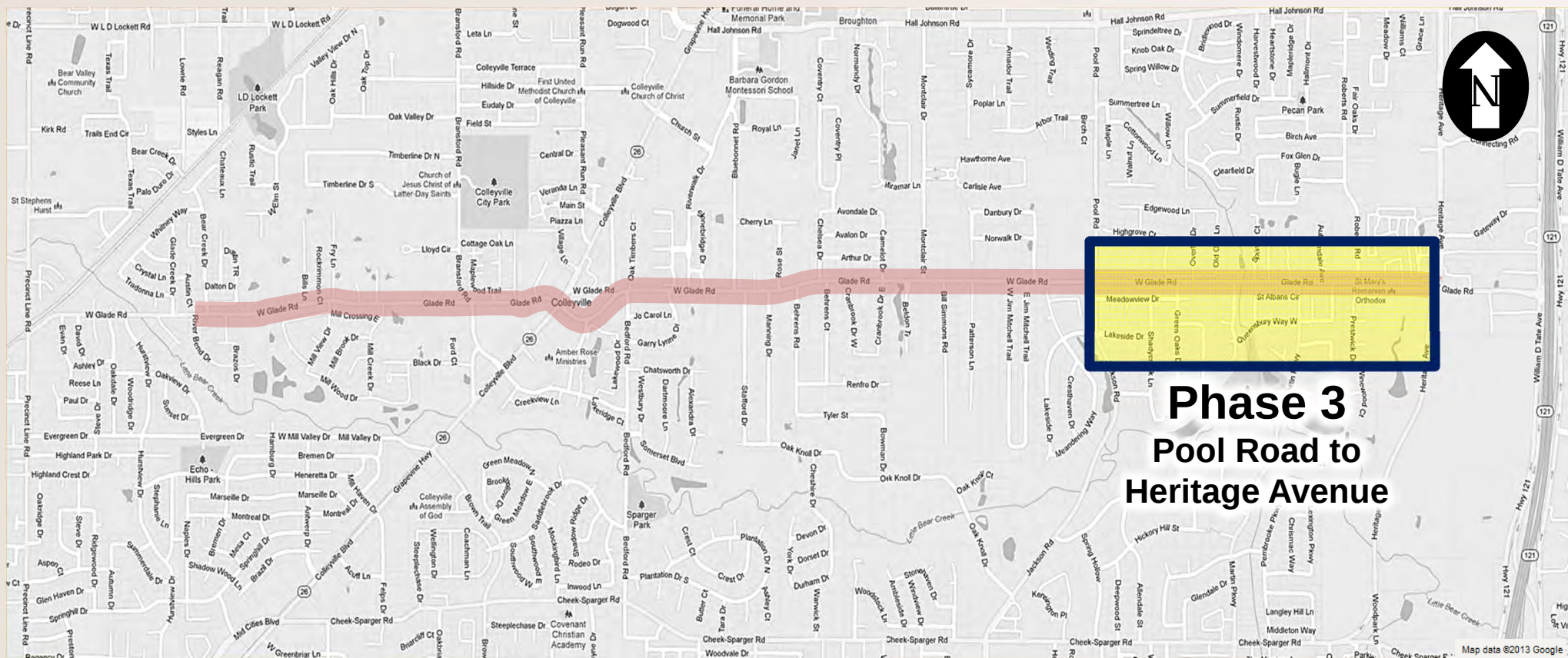
Phase 4
Western City
Limits to Bransford
Road

Phase 1
Bransford Road
to Manning Drive

Phase 2
Manning Drive to
Pool Road

Phase 3
Pool Road to
Heritage Avenue

Phase 3 (Pool Road to Heritage Avenue)



Phase 3 (Pool Road to Heritage Avenue)



Glade Road from Pool Road to Heritage Avenue, key components include:

- Addition of a westbound lane from Heritage Avenue to Roberts Road
- Add a southbound right turn lane on Roberts Road
- 5' Sidewalk on the south side
- 10' Trail on the north side
- Street lighting at intersections
- Pedestrian (low level) lighting along the trail
- Standard curb and gutter



Phase 3 (Pool Road to Heritage Avenue)



Glade Road from Pool Road to Heritage Avenue



Scope Includes - All new pavement with left turn lanes where warranted and standard curb and gutters. Adds a right turn lane on Roberts Road and an additional westbound lane from Heritage Avenue to Roberts Road. A 10' trail on the north side and 5' sidewalk on the south side.

Estimated Final Design Cost	\$ 309,500*
Estimated Construction Cost	\$3,530,250*
Estimated Right-of-Way Costs	\$ 190,000*
Estimated Number of Right-of-Way Parcels Needed	7*
Estimated Right-of-Way Acquisition and Final Design Duration	9 Months*
Estimated Construction Duration	14 Months*

****Based on Preliminary design (does not include design parameters)***

Phase 3 (Pool Road to Heritage Avenue)



Possible Design Parameters

- Utilize the existing infrastructure as much as possible reducing the scope of the project and cost of construction



Design parameters could include the following:

- Utilize existing curb and gutter on south side of Glade (approximately 90%), where feasible
- Utilize existing drainage system, where feasible
- Utilize existing sidewalk on the south side of Glade, where feasible
- Add pavement to the north side of the existing roadway within the existing available right-of-way





Phase 4
Western City
Limits to Bransford
Road

Phase 1
Bransford Road
to Manning Drive

Phase 2
Manning Drive to
Pool Road

Phase 3
Pool Road to
Heritage Avenue

Phase 4 (Western City Limits to Bransford Road)

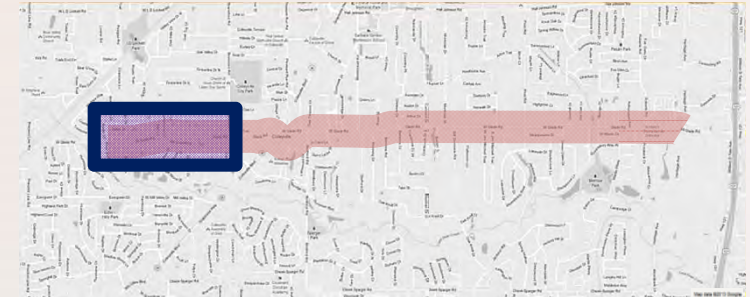


Map data ©2013 Google

Phase 4 (Western City Limits to Bransford Road)



Glade Road from the Western City Limits to Bransford Road, key components include:



- Engineered drainage system designed to accommodate a 100 year storm using concrete curbs and gutters
- Eastbound dedicated left turn lane for Rockrimmon Court
- Street lighting at intersections
- A center turn lane between River Bend Drive and Bear Creek Drive
- Westbound dedicated left turn lane for Mill View Drive
- Pedestrian (low level) lighting along the trail
- Westbound dedicated left turn lane for Clear Fork Drive
- Westbound dedicated left turn lane for Mill Creek Drive
- Standard curb and gutter
- 5' sidewalk on the south and a 10' trail on the north side

Phase 4 (Western City Limits to Bransford Road)



Glade Road from Western City Limits to Bransford Road

Scope Includes - All new pavement with left turn lanes where warranted and standard curb and gutters. A 10' trail on the north side and 5' sidewalk on the south side.



Estimated Final Design Cost	\$360,000*
Estimated Construction Cost	\$4,737,000*
Estimated Right-of-Way Costs	\$300,000*
Estimated Number of Right-of-Way Parcels Needed	18*
Estimated Right-of-Way Acquisition and Final Design Duration	9 Months*
Estimated Construction Duration	13 Months*

****Based on Preliminary design (does not include design parameters)***

Phase 4 (Western City Limits to Bransford Road)



Possible Design Parameters

- Utilize the existing infrastructure as much as possible reducing the scope of the project and cost of construction



Design parameters could include the following:

- Utilize existing curb and gutter, trail, and sidewalk from the western City limits east approximately 1,100 feet
- Utilize the existing curb and gutter on the south side of Glade from 304 Glade Road to 204 Glade Road (approximately 1,800 feet along the Mill Creek Subdivision)
- Seek ILA for the construction of the turn lanes for Bear Creek Drive, Clear Fork Drive, and River Bend Drive as they service City of Hurst developments



Project Phase Summary



Project Section	Design		Rights-of-Way	Construction	
	Cost	Time (Months)		Cost	Time (Months)
Phase 1 (Bransford Road To Manning Drive)	\$664,365**	7**	\$925,000*	\$3,755,000*	13*

Project Section	Design		Rights-of-Way	Construction	
	Cost	Time (Months)		Cost	Time (Months)
Phase 2 (Manning Drive to Pool Road)	\$460,000*	12*	\$430,000*	\$5,484,000*	16*
Phase 3 (Pool Road to Heritage Avenue)	\$309,500*	9*	\$190,000*	\$3,530,250*	14*
Phase 4 (Western City Limits to Bransford Road)	\$360,000*	9*	\$300,000*	\$4,737,000*	13*

* ***Based on Preliminary design (does not include design parameters)***

** ***Based on actual contract amount***

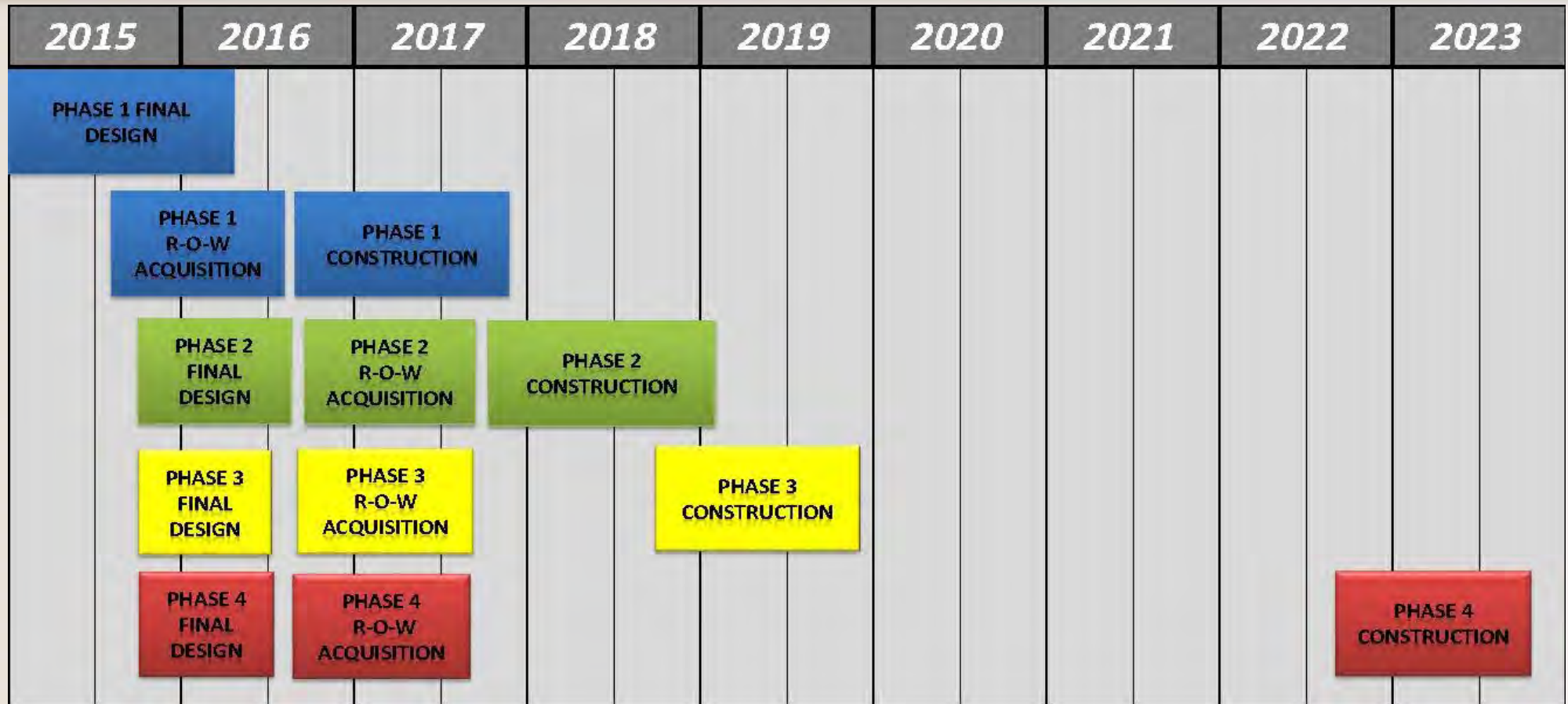


Possible Funding

- The Glade Road Corridor is eligible for several funding sources, including:
 - Tax Increment Financing District Funds (TIF)
 - Available Perimeter Street Fees

Phase 1 – Available funds	\$ 23,514	Phase 2 – Available funds	\$342,897
Phase 3 – Available funds	\$245,223	Phase 4 – Available funds	\$ 95,971
 - Roadway Impact Fees
 - \$604,471.40 available for Service Area 1 (Phase 1 and 4)
 - \$ 49,784.13 available for Service Area 2 (Phase 1, 2, and 3)
 - Wastewater Impact Fees (Phase 3 Only approximately \$134,000)
 - Water Impact Fees (Phase 2 Only approximately \$417,000)
 - Staff will seek additional funding from outside sources/agencies

Possible Phasing Scenario*



*Based only on current and forecasted funding availability from the TIF, existing Perimeter Street Fees, and Impact Fees

Interim Solution



- Current Pavement Condition Index ranges from 12 to 97
- Depth of current pavement varies
 - some sections as thin as 2"
- The need for interim maintenance is dependent on the schedule for reconstruction
- Maintenance over the past 10 Years
 - 2004 M&O Bluebonnet Drive to Summerbrook Drive
 - 2005 M&O Bedford Road to Bluebonnet Drive
 - 2006 Reconstruction from Strathmore Terrace to Heritage Avenue
 - 2008 M&O Bluebonnet Drive to Montclair Drive
 - 2009 M&O SH26 to Bransford Road
 - 2010 M&O Riverwalk Drive to Bluebonnet Drive and Bill Simmons Road to Patterson Lane



Green/Good
PCI(70 to 100)

Yellow/Fair
PCI (50 to 70)

Red/Poor
PCI (0 to 50)

Questions and Discussion

Glade Road Corridor Study

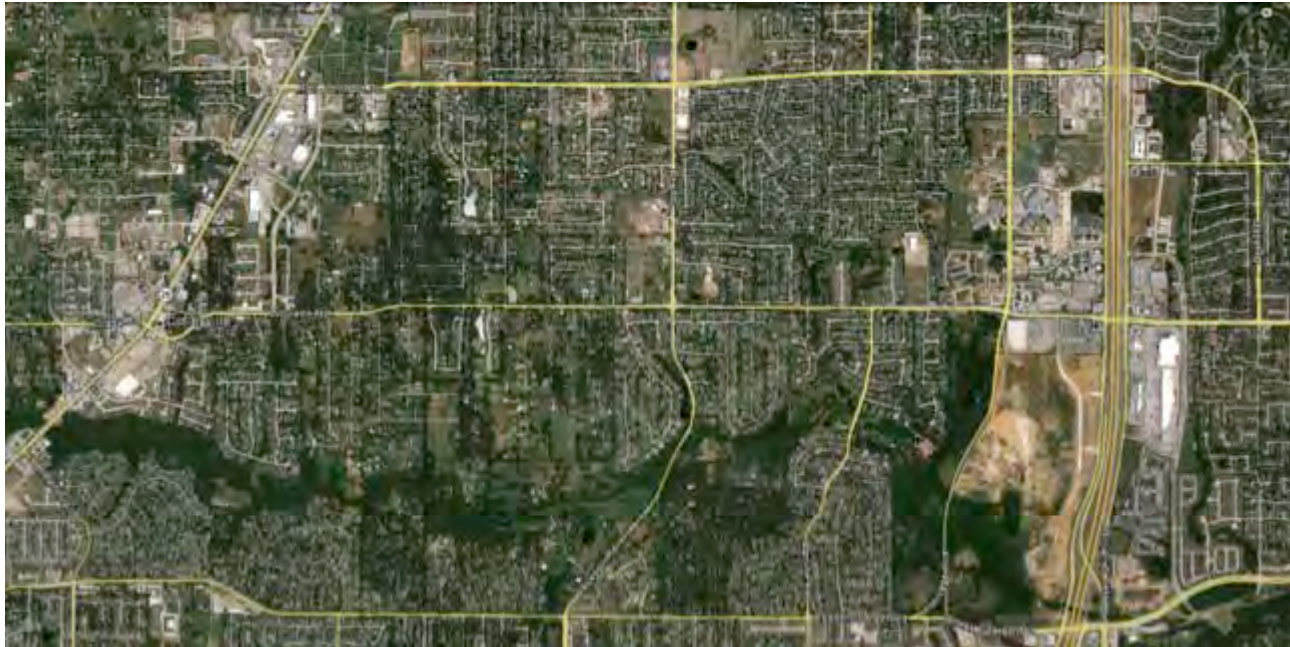
SH 26 to Heritage Avenue

November 2012



Study Purpose

- Physical Geometry
- Traffic Volumes
- Crash History



Existing Traffic Volumes

Existing Daily Traffic Data

Location	Daily Traffic Volume			50 th -Percentile Speed		85 th -Percentile Speed	
	EB	WB	Total	EB	WB	EB	WB
750 Glade Road	5,282	5,740	11,022	31-35 mph	36-40 mph	31-35 mph	36-40 mph
1209 Glade Road	6,222	7,104	13,326	26-30 mph	31-35 mph	31-35 mph	36-40 mph
2209 Glade Road	5,891	6,338	12,229	31-35 mph	31-35 mph	36-40 mph	36-40 mph
3400 Glade Road	5,699	7,999	13,698	31-35 mph	31-35 mph	31-35 mph	36-40 mph
3809 Glade Road	8,445	8,614	17,059	31-35 mph	36-40 mph	36-40 mph	41-45 mph

► Level of Service

- Graded from A to F
 - LOS D typical target
- Based on average vehicle delay

► Volume/Capacity (v/c) Ratios

- Low volume approaches may have high delays but low v/c ratios

► Both are critical in evaluating intersection operations

Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Unsignalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

Traffic Operations

Table 2-3
Level of Service Summary, Existing (2012) Conditions

Intersection	Movement	A.M. Peak Hour			P.M. Peak Hour		
		LOS	Delay	v/c	LOS	Delay	v/c
Glade Creek Dr	Westbound LT	A	13.4	0.09	A	8.2	0.03
	Northbound	B	8.6	0.03	B	14.0	0.10
Thompson Terr	Eastbound LT	A	8.1	0.01	A	9.4	0.01
	Southbound	C	16.1	0.05	D	30.0	0.41
Riverwalk Dr	Eastbound LT	A	8.3	0.09	A	9.7	0.15
	Southbound LT	C	23.4	0.13	E	38.0	0.30
	Southbound RT	B	10.7	0.11	C	18.6	0.43
Blue Bonnet Dr	Eastbound	C	15.5	0.65	B	14.6	0.56
	Westbound	B	11.5	0.46	E	38.4	0.93
	Southbound	A	9.2	0.05	B	10.4	0.11
	Intersection	B	13.7		D	28.7	
Martin Pkwy	Westbound LT	A	9.6	0.04	A	8.9	0.07
	Northbound LT	D	26.9	0.11	F	62.4	0.33
	Northbound RT	C	15.8	0.14	B	12.7	0.11

Traffic Operations

➤ Riverwalk Drive – Southbound Left-Turn

- Operates at LOS E in the PM Peak Hour
- Volume/Capacity Ratio of 0.30

➤ Blue Bonnet Drive – Westbound Approach

- Operates at LOS E in the PM Peak Hour
- Volume/Capacity Ratio of 0.93
- Restricted to all-way stop due to sight distance

Crash Analysis

- ➡ **3-Year History Evaluated (2009 through 2011)**
- ➡ **60 Crashes were recorded along Glade Road**
 - 28 of 60 were rear-end collisions, suggesting additional turn lanes and improved turning radii could reduce collisions
 - 13 of 60 were fixed-object collisions, suggesting improved clear zones and shoulders could reduce collisions
 - Night-time collisions were not disproportionate to daily fluctuations

Design Parameters

➤ Provide a minimum 30 mph design speed

- Where possible, increase to 35 to 40 mph to enhance safety

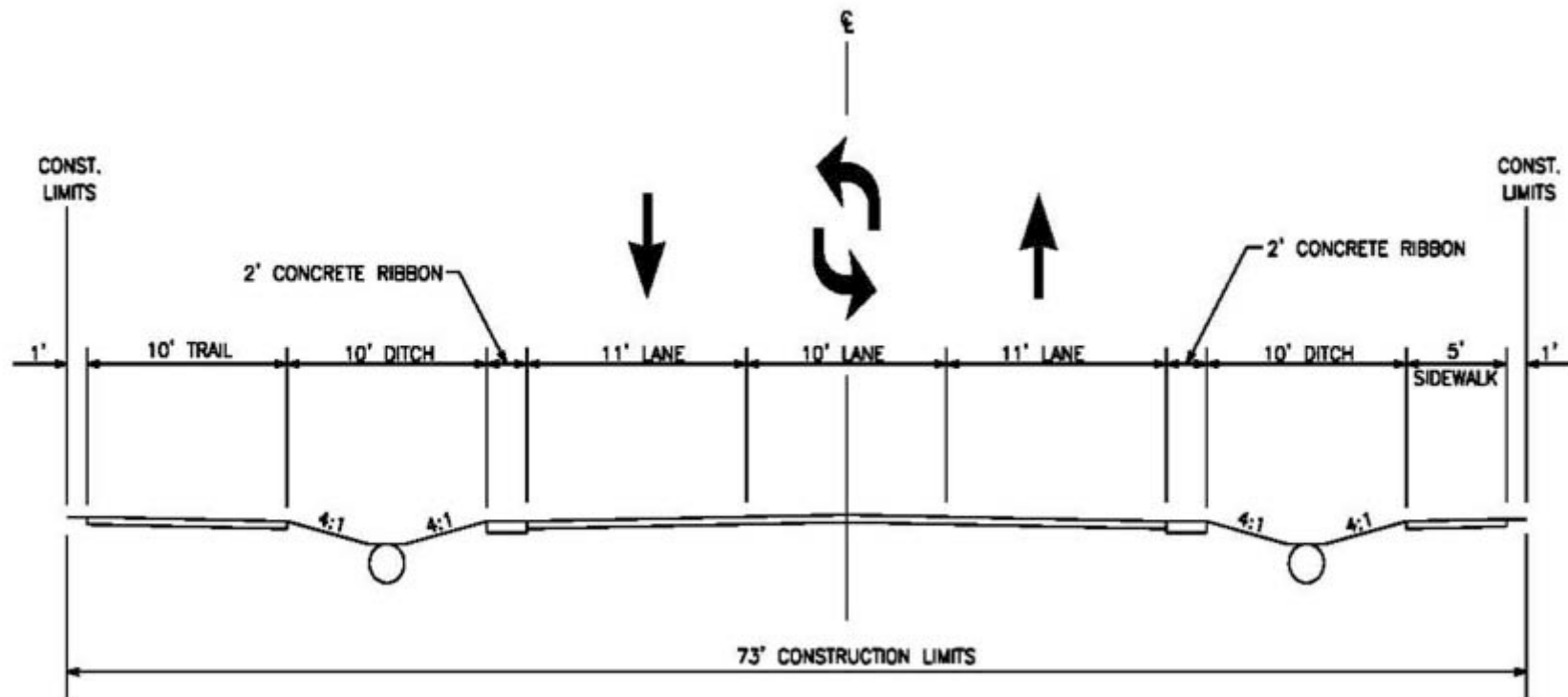
➤ Construct a basic 3-lane section with:

- 11-foot through lanes
- 10-foot center turn lane
- Drainage swales behind ribbon curbs

➤ Construct a mountable median in lieu of center turn lane

- When no driveways or intersections in proximity
- Mountable to accommodate emergency vehicles and breakdowns
- Hardscape in lieu of landscaping to control cost and maintenance

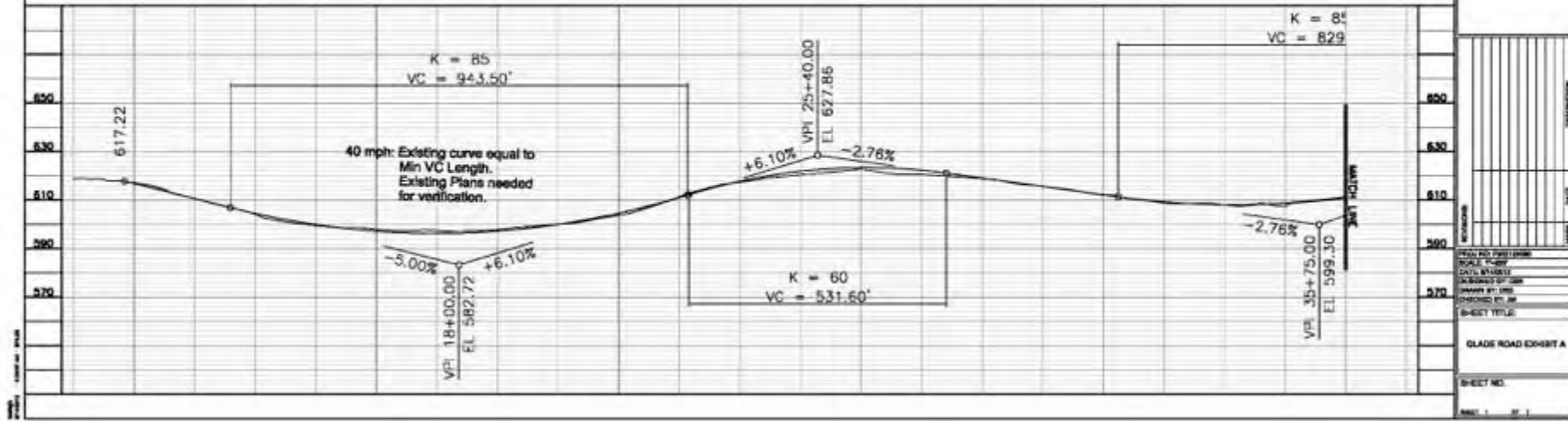
Proposed Typical Cross-Section

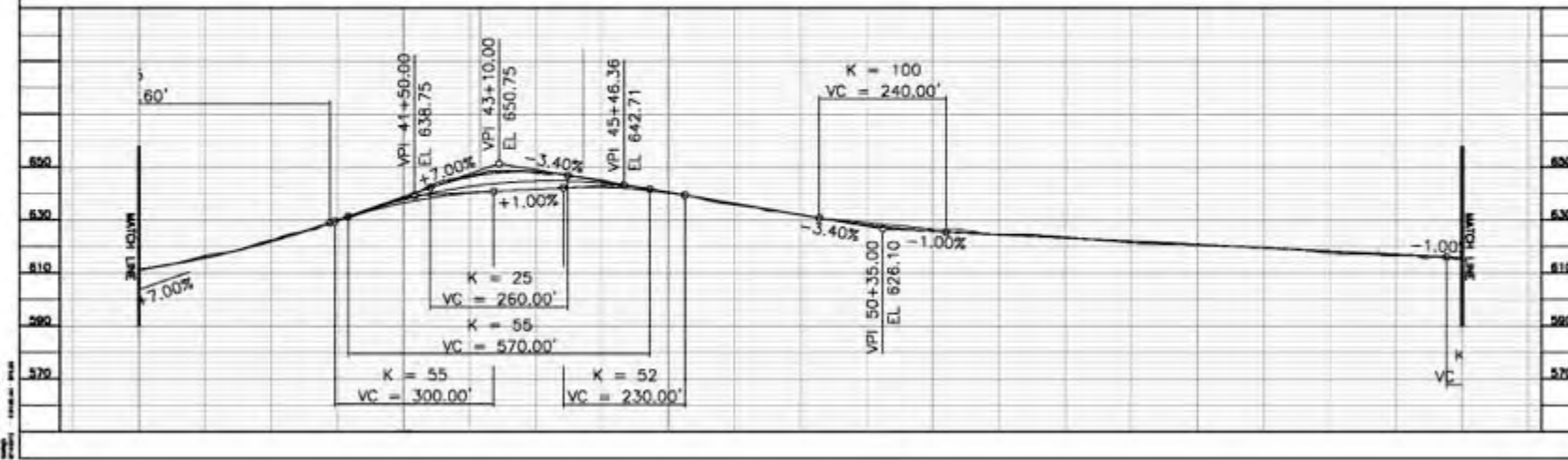


Conceptual Cost Estimate

Item	Cost
Construction	\$8.5 Million
Contingency / Incidentals	\$2.1 Million
Right-of-Way	\$0.7 Million
Soft Costs	\$1.8 Million
Total Project Cost	\$13.1 Million

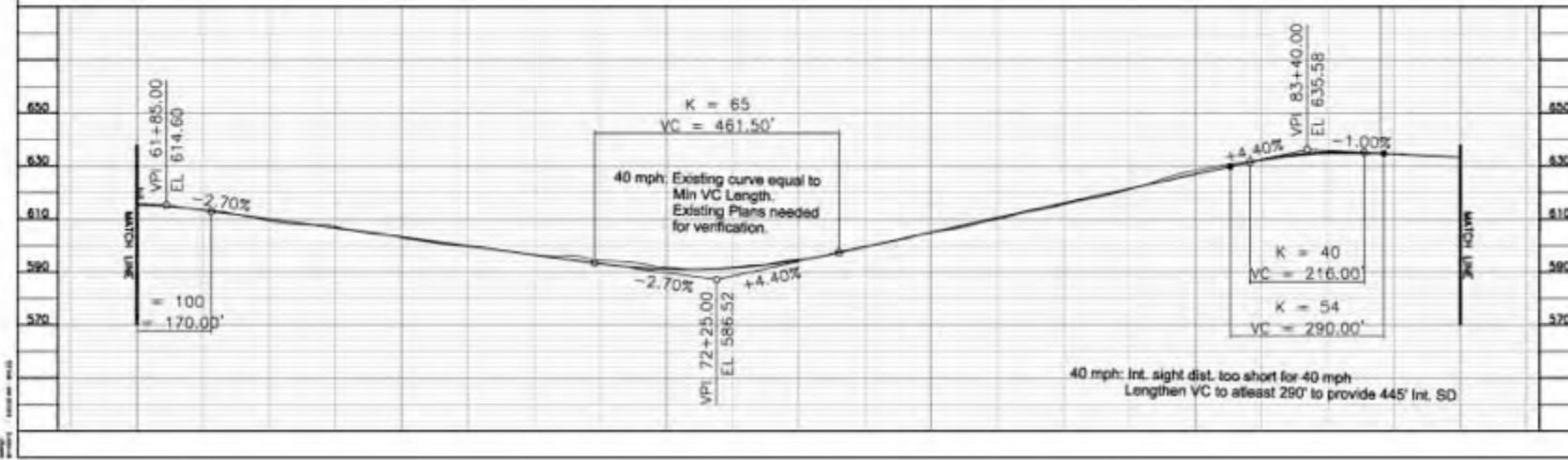
Note: Significant opportunities may exist to reduce costs once design is entered into. Notably on Construction and Right-of-Way acquisition. This project can also be phased.



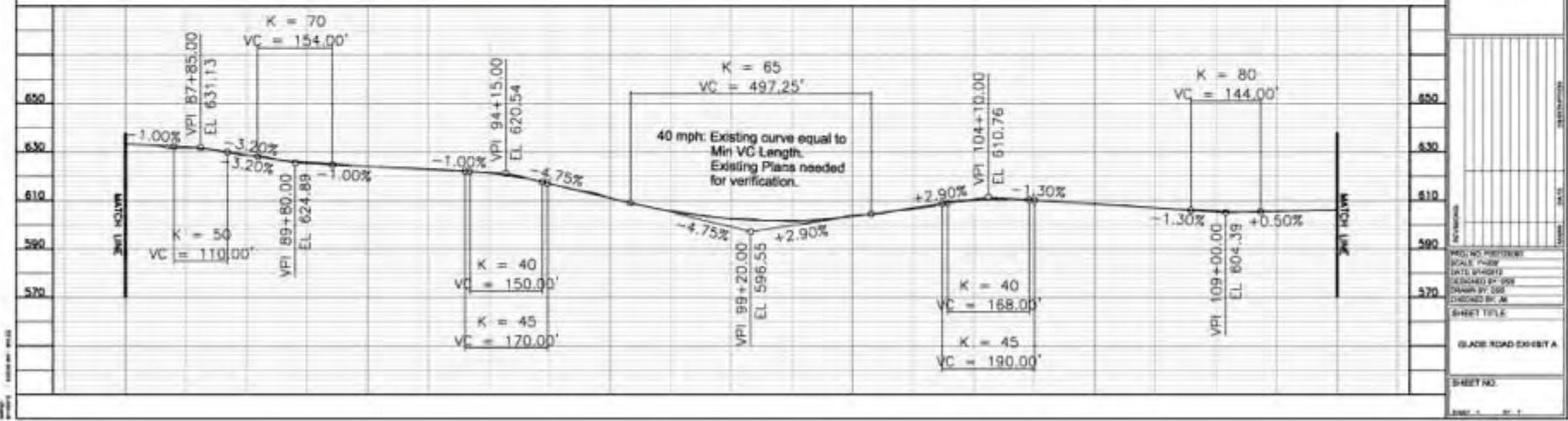


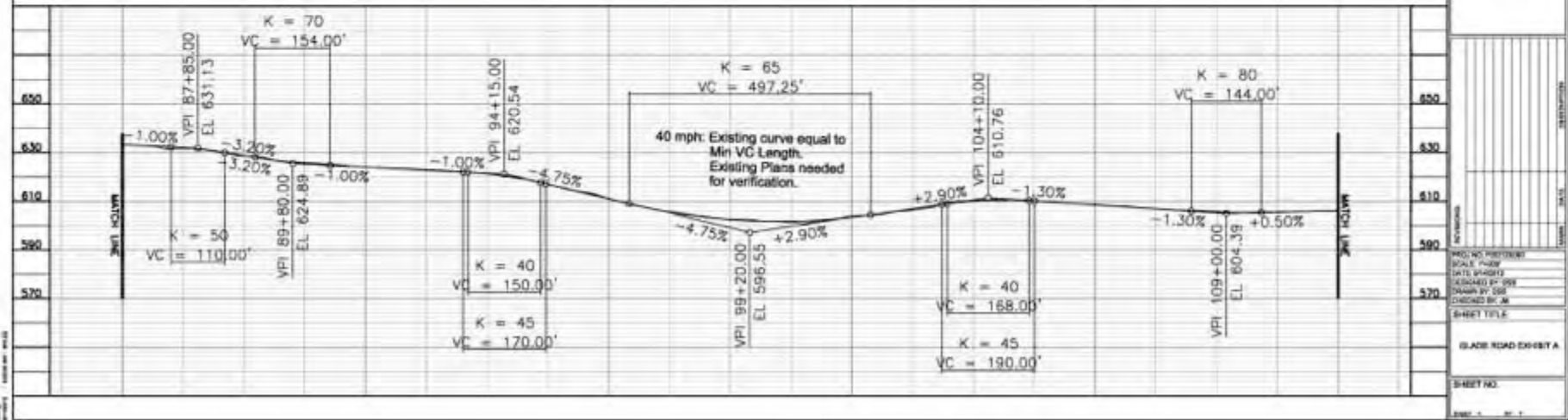
NO.	REVISION	DATE	BY	CHKD
1	ISSUED FOR PERMIT	11/01/12	JLH	WJH
2	DESIGN CHANGES	11/01/12	JLH	WJH
3	REVISIONS TO PERMIT	11/01/12	JLH	WJH
4	DESIGN CHANGES	11/01/12	JLH	WJH
5	REVISIONS TO PERMIT	11/01/12	JLH	WJH
6	DESIGN CHANGES	11/01/12	JLH	WJH
7	REVISIONS TO PERMIT	11/01/12	JLH	WJH
8	DESIGN CHANGES	11/01/12	JLH	WJH
9	REVISIONS TO PERMIT	11/01/12	JLH	WJH
10	DESIGN CHANGES	11/01/12	JLH	WJH

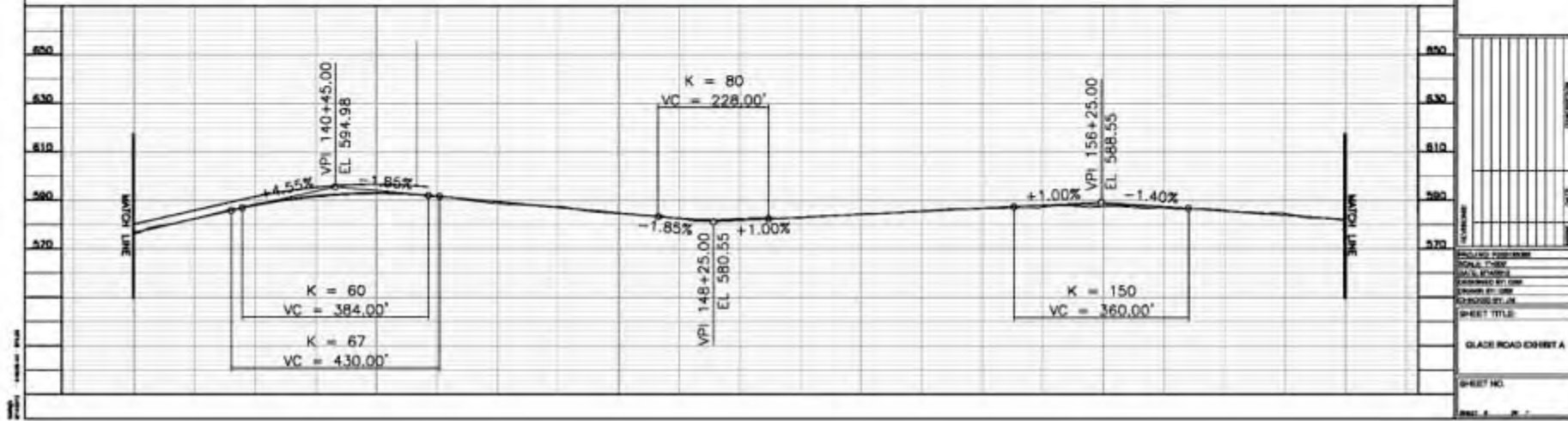
GLADE ROAD EXHIBIT A
 SHEET NO. 12 OF 18

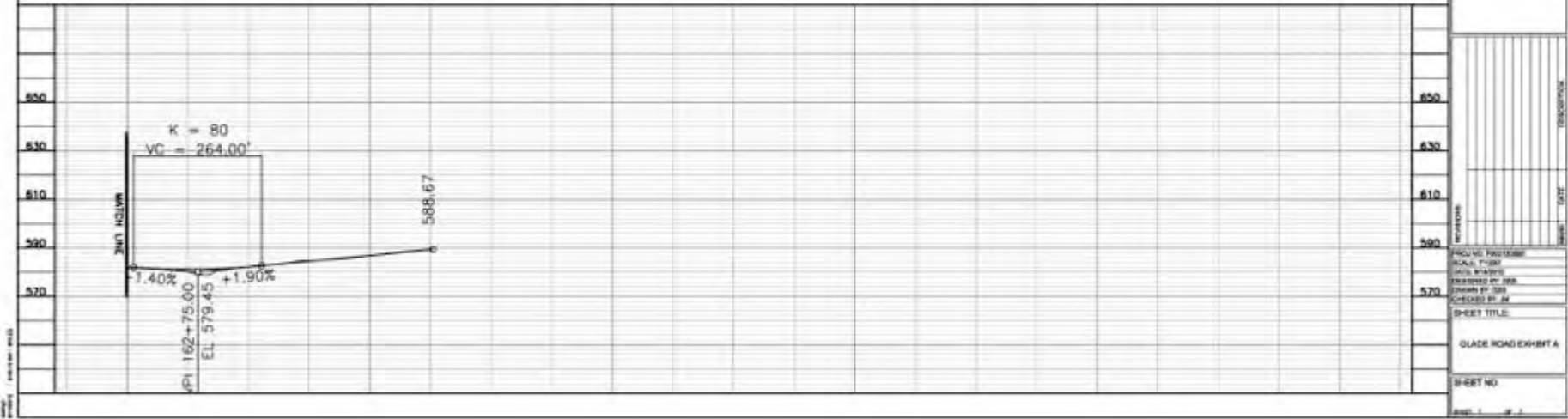


NO. OF SHEETS	1
PROJ. NO.	12-000000
SCALE	1"=40'
DATE	11/01/12
DESIGNED BY	SSS
DRAWN BY	SSS
CHECKED BY	SSS
SHEET TITLE	GLADE ROAD EXHIBIT A
SHEET NO.	1
DATE	11/01/12









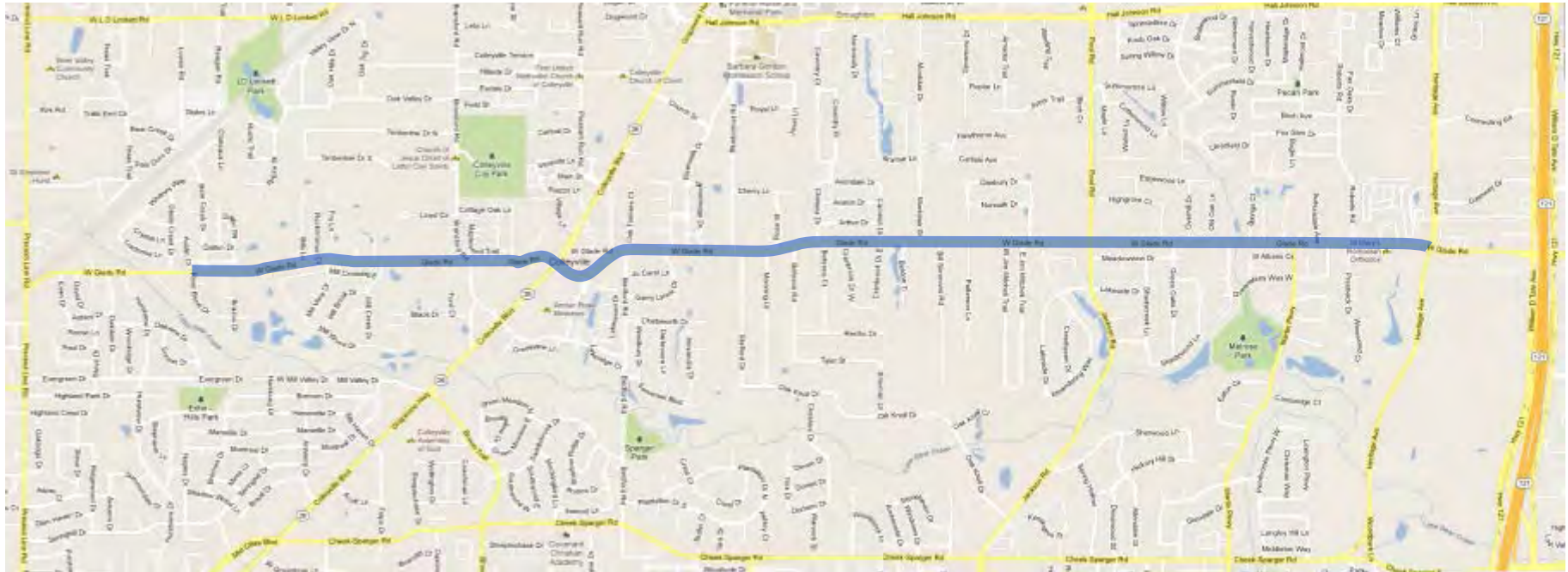


GLADE ROAD PROJECT

MAY 7, 2013 PRESENTATION 1 of 15



Purpose: The City of Colleyville's Glade Road Project will provide a vision and plan for future improvements to Glade Road.



Project Team



Bob Lowry, PE - Director of Public Works
Jeremy Hutt, PE - City Engineer



Jeff McKerrow, PE, PTOE
Chad Gartner, PE



Traffic Data



Public Involvement
Gail Cooksey
Colby Walton



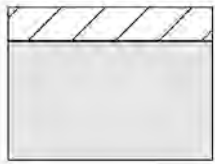
**Subsurface Utility
Engineering**



**Geotechnical
Engineering**

Existing Pavement Section

Typical Existing Pavement Section



2" Surface Course

Compacted Subgrade

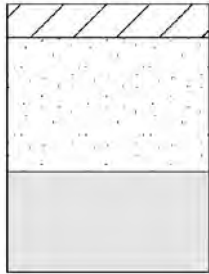
- Evolved over time (not designed)
- 3 to 5 year life
- Poor riding surface
- Requires regular maintenance



Potential Pavement Sections

Typical Engineered Pavement Section

Asphalt



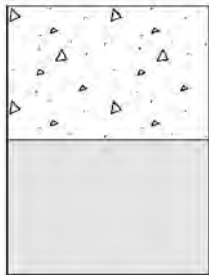
2" Asphalt Surface Course

6"-8" Asphalt Base Course

8"-12" Stabilized Subgrade

- 30 plus year design life
- Reduced road noise
- Faster construction
- Sustainable material
- Maintenance can be performed by City crews

Concrete



8"-10" Concrete

6"-8" Stabilized Subgrade

- 30 plus year design life
- Increased construction time do to required curing time
- Increased complexity in construction phasing
- Durable material
- Maintenance requires a contractor

AM/PM Operating Conditions

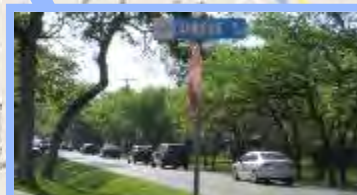
At Bransford Rd Looking East



At Behrens Rd Looking West
(Traffic at Bluebonnet Intersection)



At Cranbrook Dr E Looking West
(Traffic backup from Bluebonnet Rd)



At Martin Pkwy Looking East



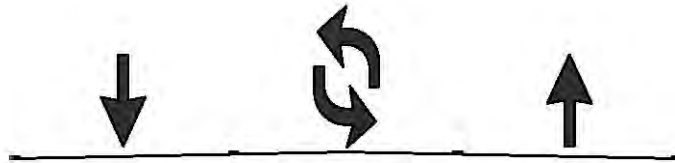
Legend

More Desirable ↑	Level of Service A, B, C
	Level of Service D
Less Desirable ↓	Level of Service E
	Level of Service F
AM Peak Hr LOS →	PM Peak Hr LOS ←

Typical Roadway Capacity



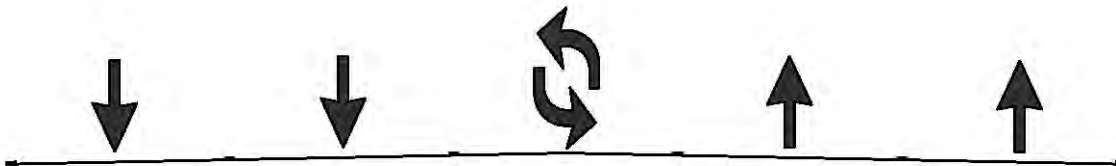
- 0 **2-Lane**
 - 10,000 - 12,000 Vehicles/Day



- 0 **3-Lane**
 - 15,000 - 20,000 Vehicles/Day



- 0 **4-Lane**
 - 15,000 - 20,000 Vehicles/Day



- 0 **5-Lane**
 - 25,000 - 30,000 Vehicles/Day

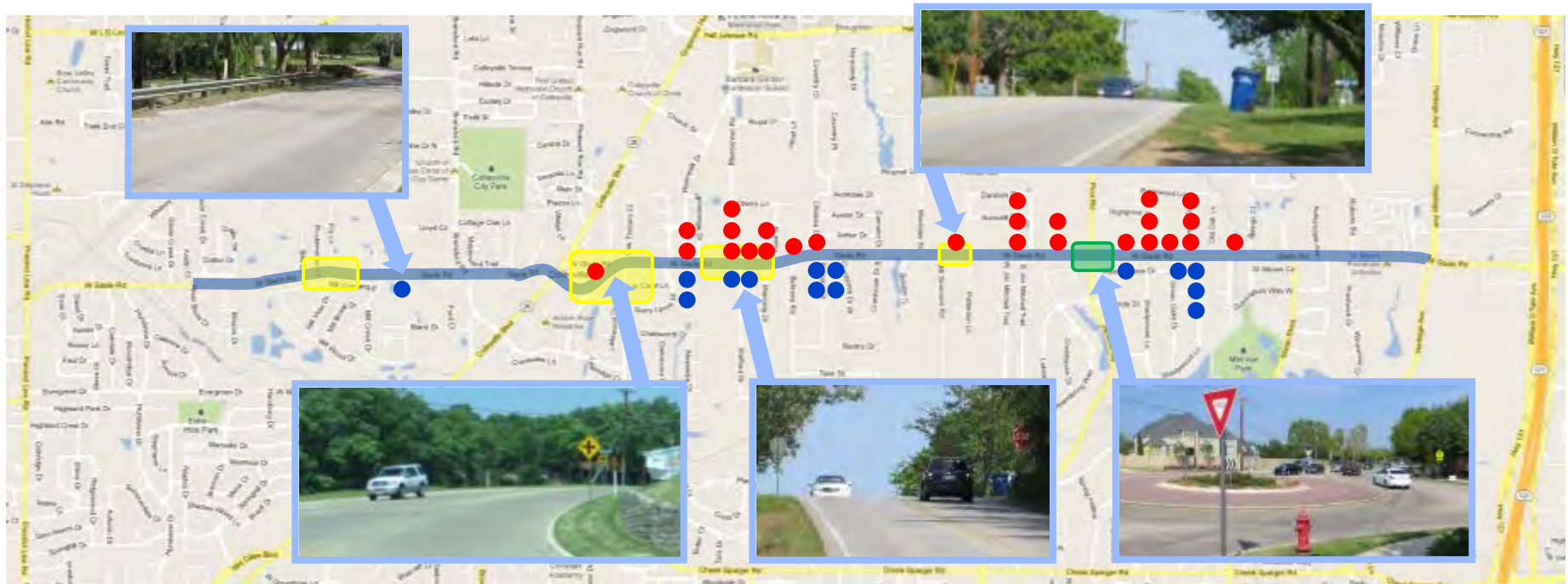
Typical Roadway Capacity



Legend

10,000 - 12,000 Vehicles / Day	2 Lane
15,000 - 20,000 Vehicles / Day	3 & 4 Lane
25,000 - 30,000 Vehicles / Day	5 Lane
	Current Traffic Volume

Crash Patterns - Safety Concerns



26 rear-end collisions

- The addition of turn lanes, improved turning radii and improved sight distance could reduce collisions

14 fixed-object collisions

- Improved clear zone could reduce collisions

Legend

- Rear-end collision
- Fixed-object collision
- Area of insufficient sight Distance
- Jackson/Pool Road Roundabout

Pedestrian / Bicycle Accommodations



The City's master sidewalk plan suggests the desire to provide:

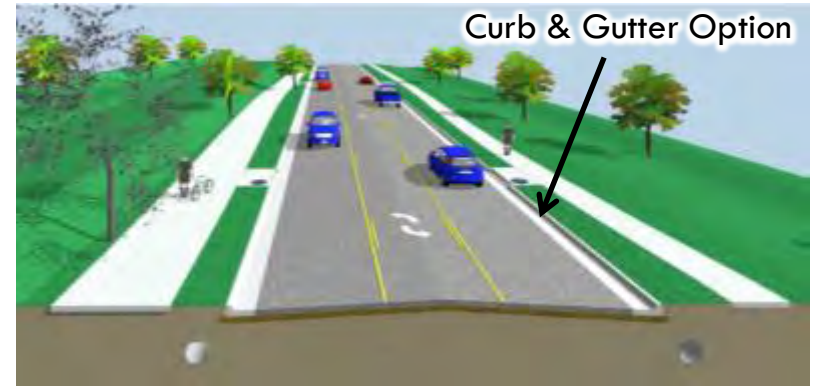
- 10' Trail on the North
- 5' Sidewalk on the South

Potential Pedestrian / Bicycle Accommodations

Possible Improvements



Roadway Drainage



Public Involvement



Follow Us

- **Web:**
www.gladeroadproject.com
- **Facebook:**
facebook.com/gladeroadproject
- **Twitter:**
[@gladerdproject](https://twitter.com/@gladerdproject)

Join Us

- **Public Meeting May 2013**
- **Public Meeting October 2013**

We'll Join You

- **Neighborhood Meeting**
- **Chamber Meeting**
- **Request Us at:**
www.gladeroadproject.com



Public Involvement Activities

Activities Completed

- ❑ Placeholder website live
- ❑ Project link on city's home page
- ❑ Postcard mailer sent to stakeholders along corridor
- ❑ Public meeting press release sent to local media; published by several
- ❑ Public meeting featured in April water bill insert
- ❑ FAQs and fact sheet handouts created
- ❑ Social media sites live: Twitter & Facebook

Planned Activities

- ❑ Digital signage at key locations prior to May 23 meeting (City to Provide)
- ❑ Full website launch after May 23 meeting, with project documents, maps, feedback tools and more
- ❑ Periodic e-newsletters with project updates to e-mail database
- ❑ Presentations to community stakeholder organizations (Chamber, HOAs, civic groups, etc.) in summer, early fall
- ❑ Fall 2013 public meeting to present design alternatives

Questions

Please ask project representatives specific questions after the presentation.

Please fill out comment cards.



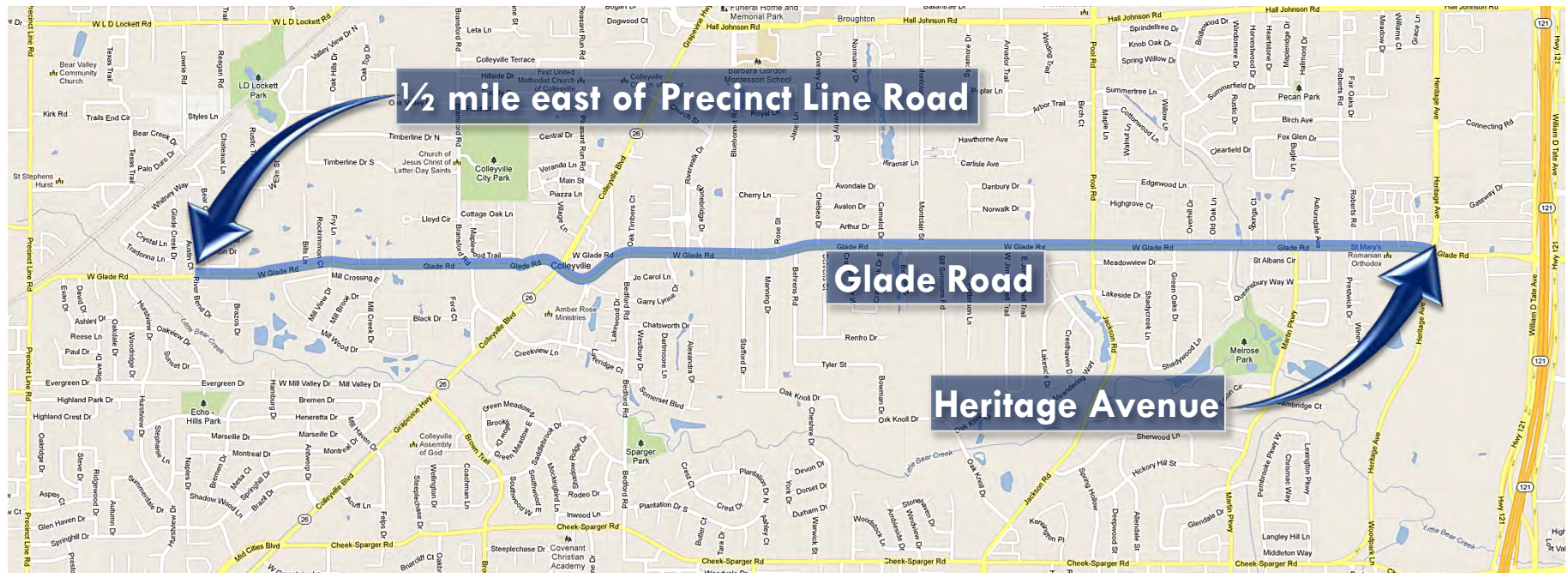
GLADE ROAD PROJECT

NOVEMBER 5, 2013 PRESENTATION 1 of 25



Purpose:

Provide a vision and plan for future improvements to Glade Road.



Project Study Approach

Gather / Analyze Data

Roadway Geometry
Traffic Data
Accident Data

Public Involvement

Public meetings and presentations
Gather public input

Recommendation

Develop a preferred alternative that fits Glade Road
Mitigate issues with strategic improvements

Project Schedule

Start Project March 2013

Public Meeting May 23rd 2013

Develop Alternatives September 2013

Public Meeting November 18th 2013

Select Alternative January 2014

Why Glade Road?

- **Pavement Condition**

- Pavement is in poor condition
- Requires regular maintenance

- **Safety Concerns**

- The road has seen a number of collisions.
- Roadside conditions and left/right turning vehicles
- Several areas of poor sight distance (Mill View, Bedford, Bluebonnet, Roberts Road)



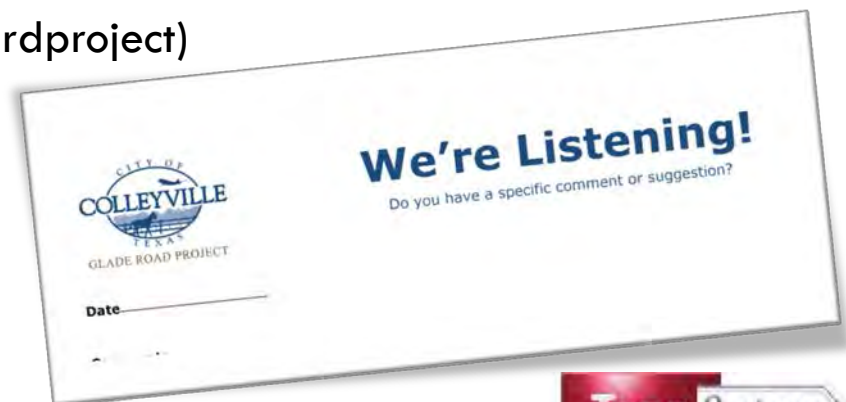
- **Traffic Congestion**

- Colleyville has grown up around Glade Road
- The road experiences heavy traffic congestion at peak hours.
- Intersections experiencing long delays (Bransford, Riverwalk, Bedford, Bluebonnet, Martin)

Goal: To make safety and traffic flow improvements, in order to better accommodate vehicles, pedestrians and bicycles, while preserving the road's rural character.

Public Involvement

- **Public Involvement – Early and Often**
 - Public meeting and presentations to community groups.
 - Approximately 200 people at public meeting May 23rd
 - Approximately 400 people have attended a presentation
- **Online Presence (Website, Facebook, Twitter)**
 - Web: www.gladeroadproject.com
 - Over 1,270 unique visitors
 -  Facebook.com/gladeroadproject
 -  Twitter.com/gladerdproject (@gladerdproject)
 - Email: info@gladeroadproject.com
 - Over 250 e-newsletter subscriptions



Public Comments

116 comments received

- **51 comments related to Roadway Section**

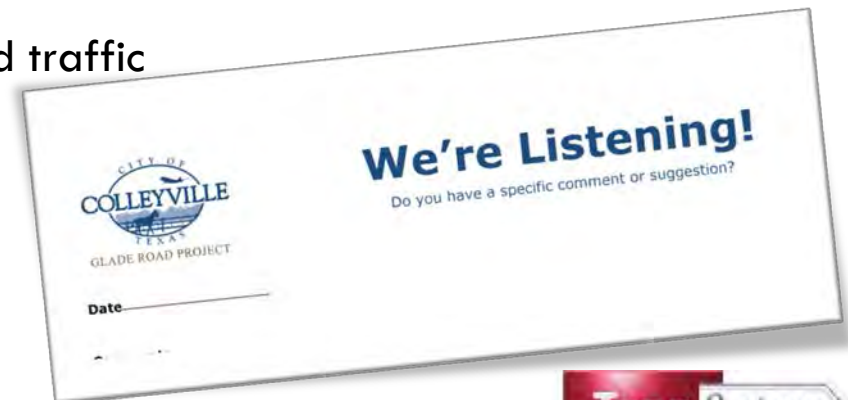
- 43% preferred either no improvements or a 2 lane section
- 47% preferred some variation of a 2 lane section with left turn lanes
- 10% preferred a 4 or 5 lane section

- **32 comments related to the Bluebonnet Intersection**

- Comment ranged from...remove stop sign...lower the grade...close Bluebonnet

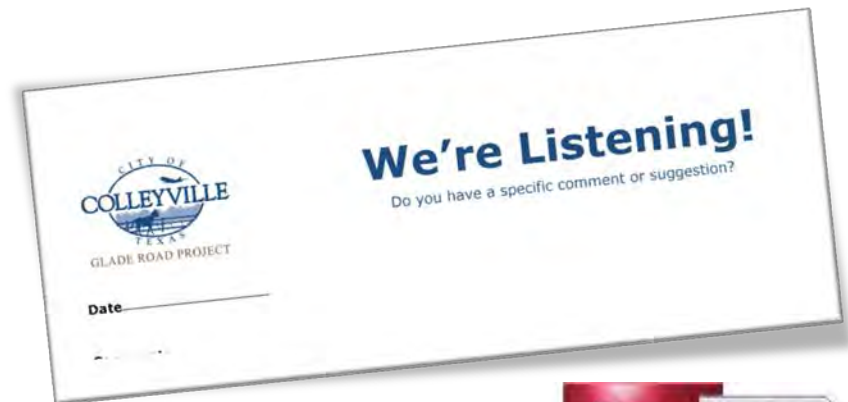
- **25 comments related to other Intersections**

- Roberts Road/Prestwick – Sight distance and traffic
- Riverwalk – Traffic and drainage concerns
- Bransford – Traffic
- Bedford and Mill View – Sight distance



Public Comments

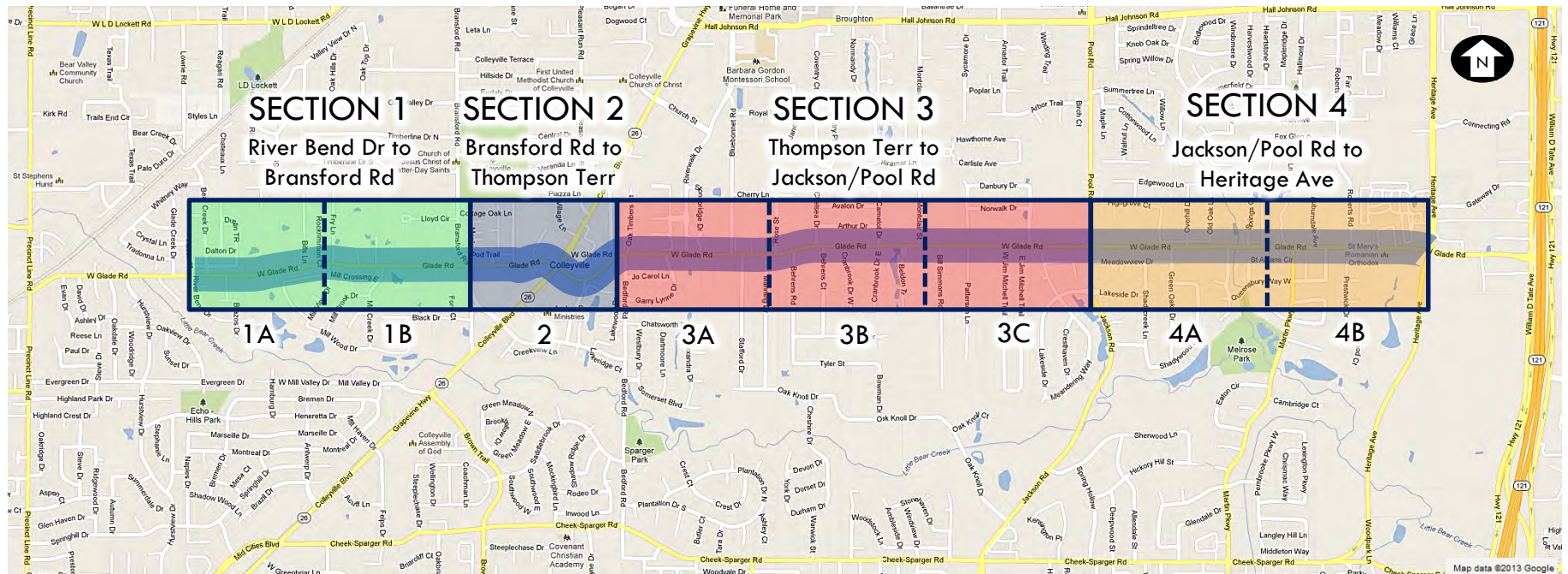
- **32 comments related to Sidewalk/Trail**
 - 23 for some combination of sidewalk and/or trail on north and south side of Glade Rd.
 - 9 against trail on north side of Glade Rd.
- **12 comments inquiring about Traffic Calming**
 - Roundabouts, stop signs and speed bumps
- **11 comments related to Curb Type**
 - 6 preferred ribbon curb
 - 5 preferred curb and gutter
- **7 comments related to Pavement Type**
 - 6 out of 7 preferred asphalt pavement



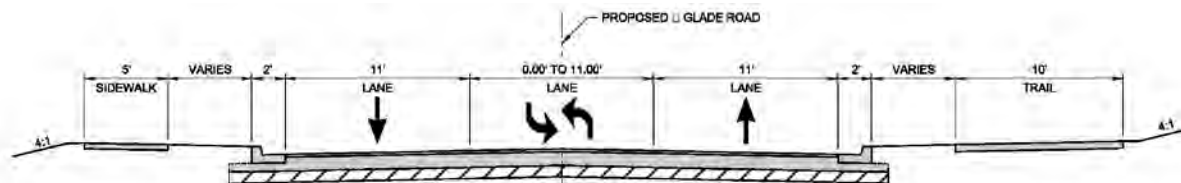


GLADE ROAD PROJECT

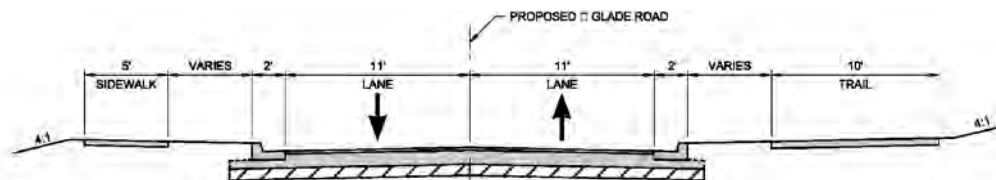
Project Sections



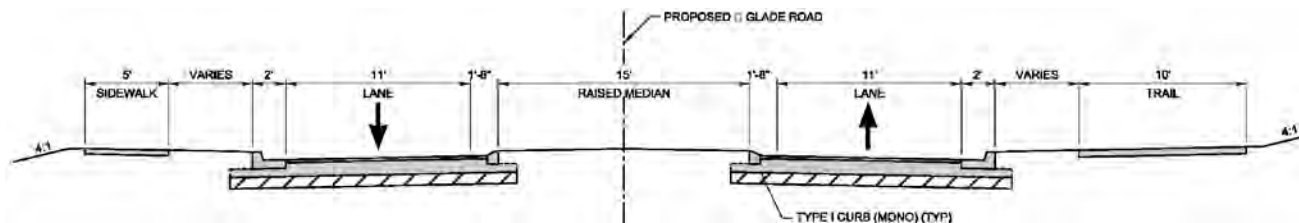
Possible Improvements



TWO LANES WITH CONTINUOUS LEFT TURN LANE



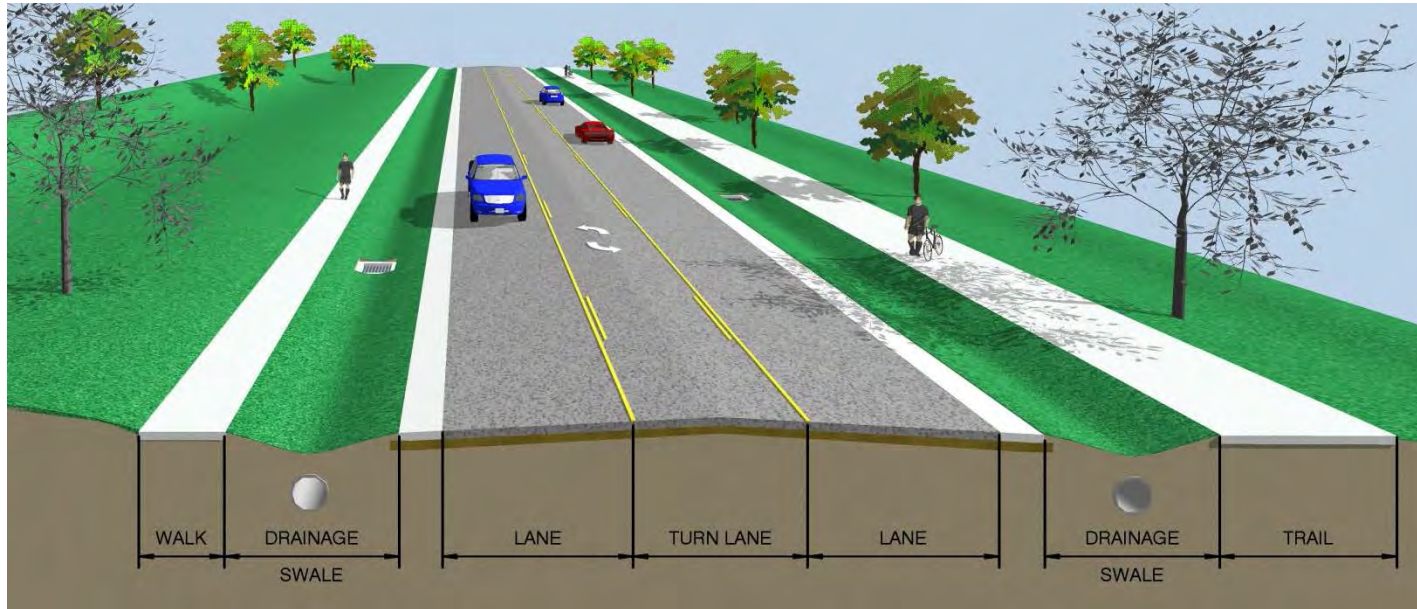
TWO LANES WITH LEFT TURN LANES WHERE WARRANTED



TWO LANES WITH MEDIANS AND LEFT TURN LANES

Possible Improvements

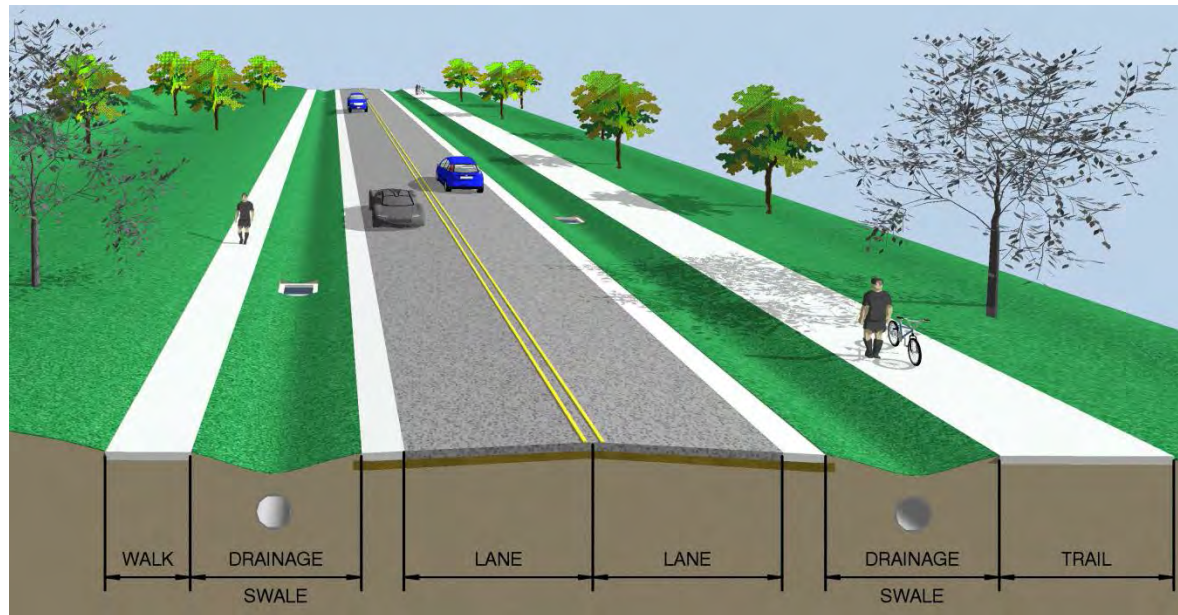
Two Lanes with Continuous Left Turn Lane



- Provides adequate capacity
- Improves safety
- Provides left-turn lanes at side streets
- Improved driveway access
- Pedestrian / Bicycle accommodations

Possible Improvements

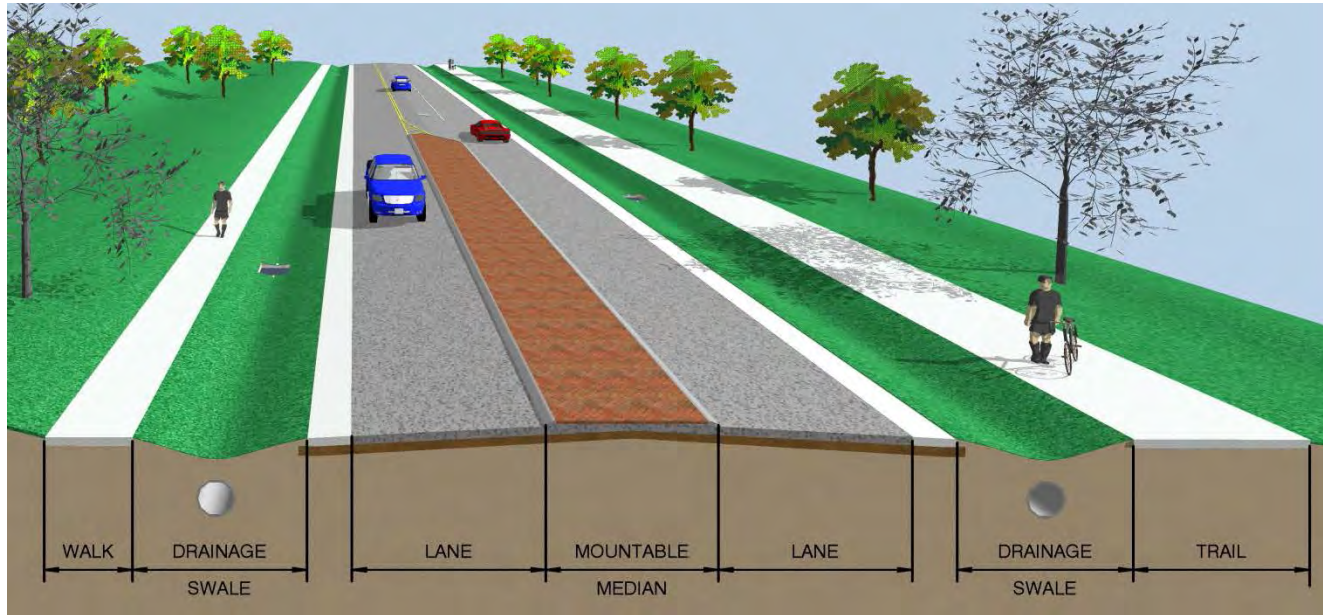
Two Lanes with Left Turn Lanes where Warranted



- Possible in low volume locations
- Can provide left-turn lanes where warranted
- Poor sight distance can be improved
- Pedestrian / Bicycle accommodations
- Minimize impact in the right-of-way

Possible Improvements

Two Lanes with Median and Left Turn Lanes



- Provides adequate capacity
- Improves safety
- Provides left-turn lanes at side streets
- Medians may be landscaped if provisions are made for emergency vehicle access
- Pedestrian / Bicycle accommodations

Typical Exhibit

Glade Road Project - Section 1A - River Bend Dr to Rockrimmon Ct -



Intersection Alternatives



Traffic Signal Controlled

Advantages

- Improves Safety - Reduces right angle crashes
- Reduced sight distance required
- Provides gaps in traffic
- Increased capacity
- Maximum control

Disadvantages

- Long term maintenance
- Can increase rear-end crashes
- Increased delay
- Driver's use of less adequate routes
- Disobedience



Stop Sign Controlled

Advantages

- Improves safety
- Cost effective

Disadvantages

- Low volume
- Rear-end crashes

Note: Traffic volumes do not warrant Traffic Signals

NOVEMBER 5, 2013 PRESENTATION 15 of 25

Intersection Alternatives

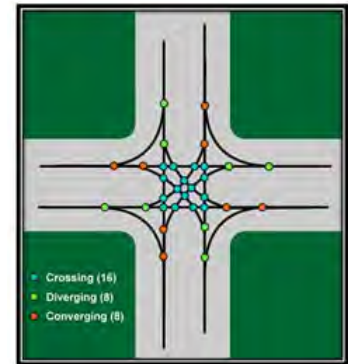
Roundabout

Advantages

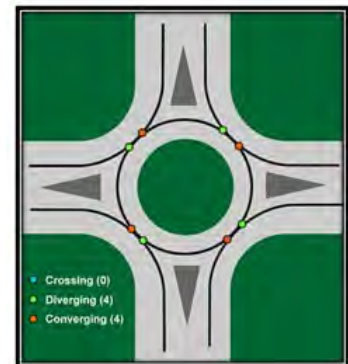
- Safest
- Reduced number of conflict points
- Reduced delays
- Increased capacity
- Traffic calming
- Reduced sight distance requirements

Disadvantages

- Most expensive to construct
- Right-of-way
- Reduced gaps in traffic
- Increased pedestrian delay



Traditional = 32 conflict points



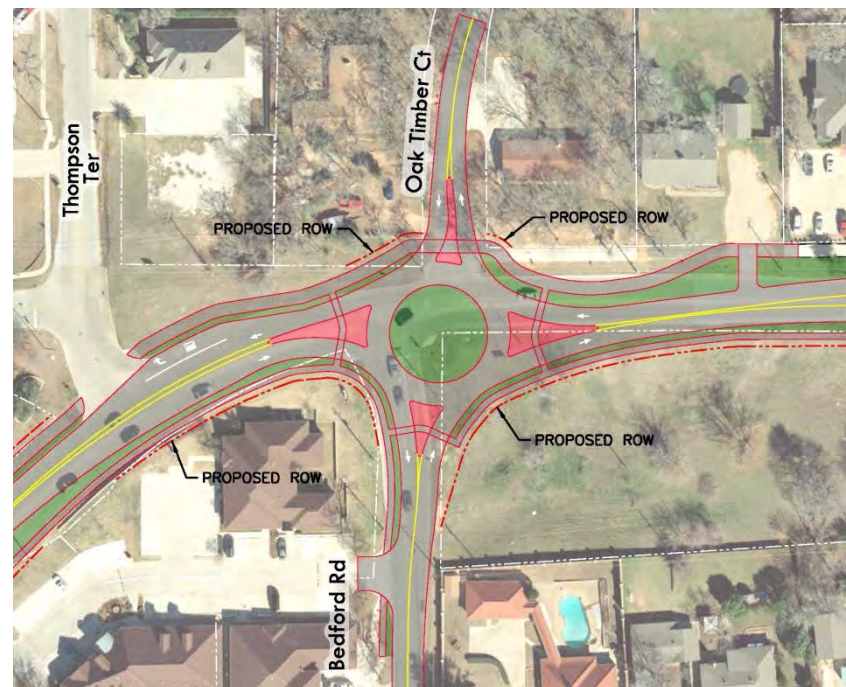
Roundabout = 8 conflict points

Intersection Alternatives



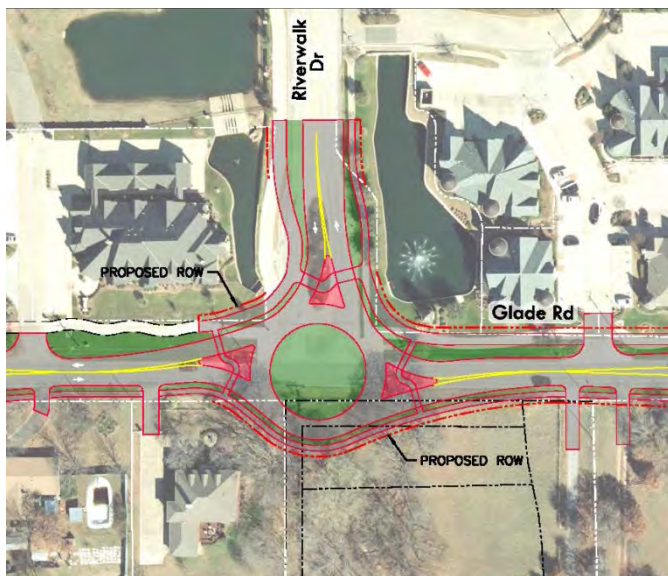
Glade Road at Bransford Road

Intersection Alternatives

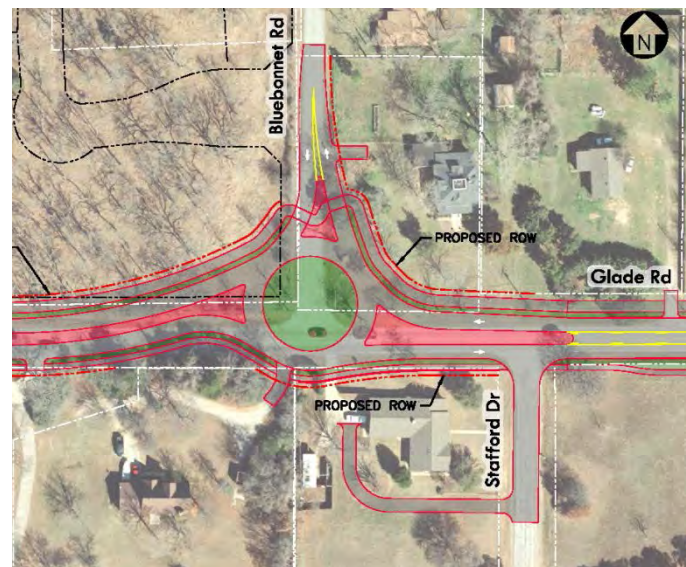


Glade Road at Bedford Road

Intersection Alternatives



Glade Road at Riverwalk Drive



Glade Road at Bluebonnet Road

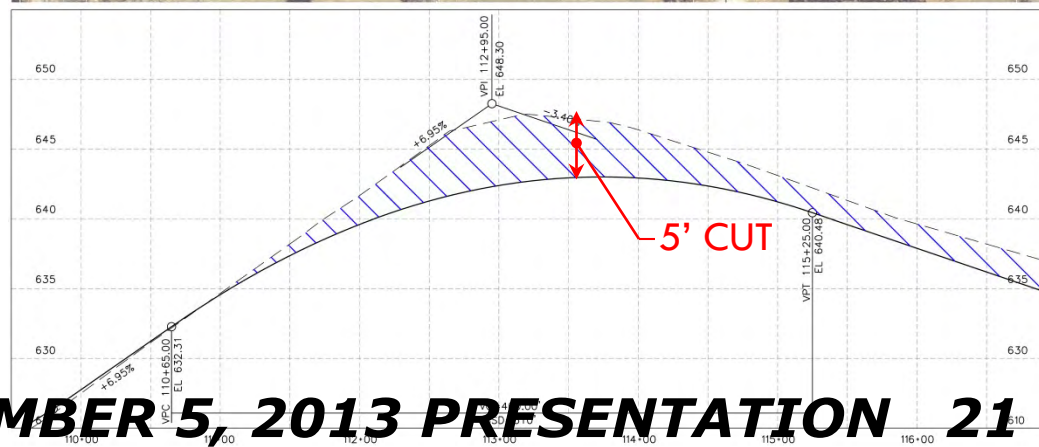
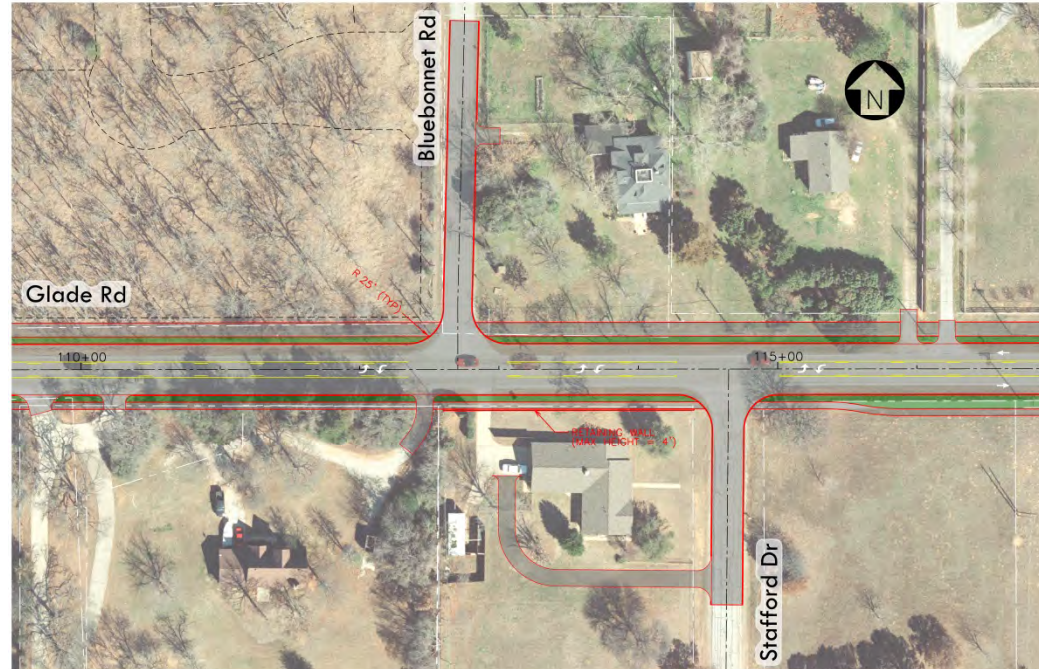
Intersection Alternatives



Glade Road at Martin Parkway

Glade Road at Roberts Road

Glade Road at Bluebonnet Road

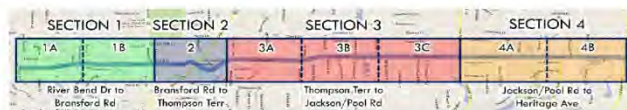




Comment Card

We're Listening!

Please indicate your preferences or provide comments.



- 1) What is your preferred roadway configuration for Section 1? (River Bend Dr. to Bransford Rd)
 - a) Two lanes with left-turn lanes where warranted
 - b) Two lanes with continuous left-turn lane
 - c) Two lanes with medians and left-turn lanes
 - 2) What is your preferred roadway configuration for Section 3? (Riverwalk Dr. to Jackson/Pool Rd.)
 - a) Two lanes with left-turn lanes where warranted
 - b) Two lanes with continuous left-turn lane
 - c) Two lanes with medians and left-turn lanes
 - 3) What is your preferred roadway configuration for Section 4? (Jackson/Pool Rd. to Heritage Ave.)
 - a) Two lanes with left-turn lanes where warranted
 - b) Two lanes with continuous left-turn lane
 - c) Two lanes with medians and left-turn lanes
-
- 4) Do you have a preference on which pavement type is used for Glade Road?
 - a) Yes, asphalt
 - b) Yes, concrete
 - c) No preference
 - 5) Do you have a preference on whether curb and gutter or a ribbon curb is used for Glade Road?
 - a) Yes, curb and gutter with storm drain
 - b) Yes, ribbon curb with engineered swales with storm drain
 - c) No preference
 - 6) Would you like to have sidewalks/trails along Glade Road?
 - a) Yes, 5' sidewalk on the south side and 10' trail on the north side of Glade Road
 - b) Yes, 5' sidewalk on both sides of Glade Road
 - c) Yes, 5' sidewalk only on one side of Glade Road
 - d) No preference

OVER

We're Listening!

Please indicate your preferences or provide comments.



- 7) At the intersection of Glade Road and Bransford Road I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 8) At the intersection of Glade Road and Bedford Road I would prefer to see:
 - a) A roundabout
 - b) Bedford Road realigned to improved sight distance
 - c) No improvements
- 9) At the intersection of Glade Road and Riverwalk Drive I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 10) At the intersection of Glade Road and Bluebonnet Road I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled on Bluebonnet Road only - Improve sight distance and remove stop signs on Glade Road
- 11) At the intersection of Glade Road and Martin Parkway I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 12) At the intersection of Glade Road and Roberts Road / Prestwick Drive I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled

Please give any additional comment in the space provided below:

What should the public know?

- Nothing has been decided yet.
- This is an opportunity to provide feedback.
- Public input is vital to the design process.
- Different road segments may require different solutions. All solutions will be context-sensitive.
- We do anticipate funding any improvements from existing sources, with no effect on taxes.





Web: www.gladeroadproject.com (submit questions and comments, sign up for e-updates, request a presentation, view project materials)



Facebook.com/gladeroadproject



Twitter.com/gladerdproject (@gladerdproject)

Email: info@gladeroadproject.com

For more information:

Jeremy Hutt, City Engineer, 817-503-1095 or jhutt@colleyville.com

Please ask project representatives specific questions after the presentation.

Please fill out comment cards.



GLADE ROAD PROJECT

MARCH 3, 2014 PRESENTATION 1 of 40

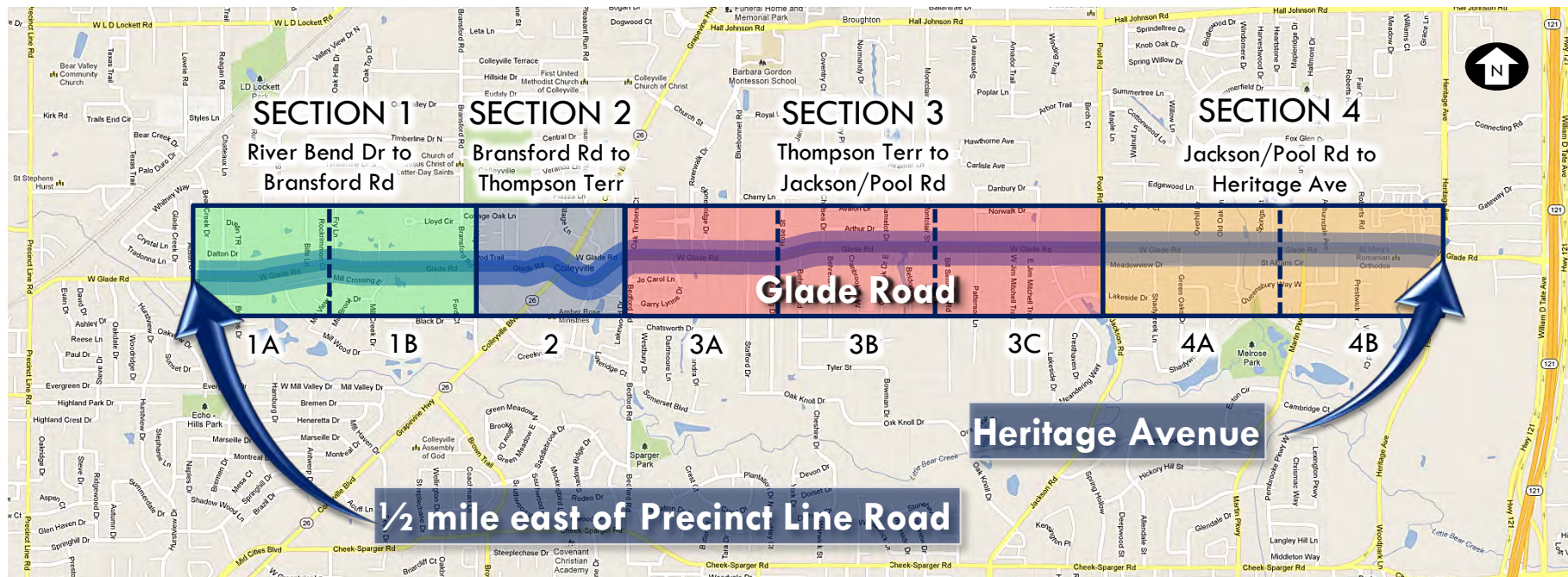
Workshop Agenda

- **Overview of Project and Study Approach**
- **Summary of Public Involvement**
- **Survey Results and Recommended Alternatives**
 - **Overview of Alternatives, Roadway Section, Intersection Type**
- **Survey Results and Recommendation of Corridor Features**
 - **Curb Type, Pavement Type, Sidewalks, Street Lighting**
- **Proposed Construction Schedule**
- **Next Steps (Public Meeting, Report....)**



Purpose:

Provide a vision and plan for future improvements to Glade Road.



Project Study Approach

Gather / Analyze Data

Roadway Geometry
Traffic Data
Accident Data

Public Involvement

Public meetings and presentations
Gather public input

Develop Alternatives

Present Alternatives / Gather Public Input

Make Recommendation

Develop a preferred alternative that fits Glade Road
Mitigate issues with strategic improvements

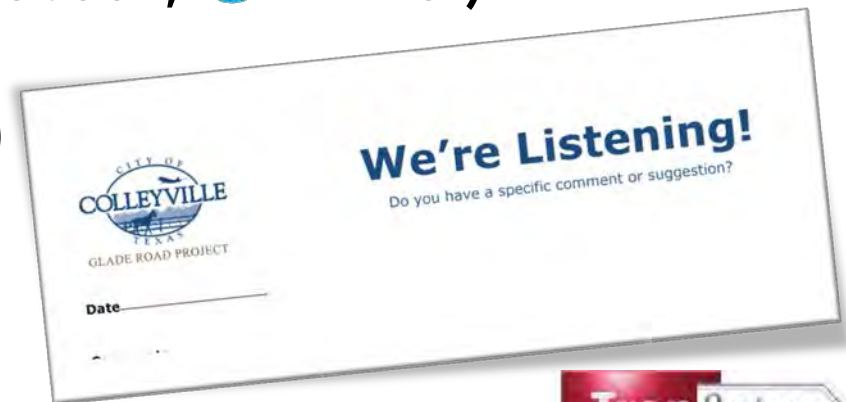
Summary of Public Involvement

• Public Involvement – Early and Often

- Public meetings and presentations to community groups.
 - Homeowner Associations
 - Chamber of Commerce, Lions Club, Woman's Club, Rotary Club
- Approximately 200 people at public meeting May 23rd, 2013
 - 142 Comments Received
- Approximately 350 people at public meeting November 18th, 2013
 - 393 Surveys Received

• Online Presence (Website, Facebook, Twitter)

- Web: www.gladeroadproject.com
 - Over 2,363 unique visitors (3,255 total)
- Email: info@gladeroadproject.com
 - Over 500 e-newsletter subscriptions



Summary of Public Involvement

We're Listening!

Please indicate your preferences or provide comments.



Name: _____

Address: _____



- 1) What is your preferred roadway configuration for **Section 1?** (River Bend Dr. to Bransford Rd.)
 - a) Two lanes with left-turn lanes where warranted
 - b) Two lanes with continuous left-turn lane
 - c) Two lanes with medians and left-turn lanes
- 2) What is your preferred roadway configuration for **Section 3?** (Riverwalk Dr. to Jackson/Pool Rd.)
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 - c) Two lanes with medians and left-turn lanes
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 - c) Yes, 5' sidewalk only on one side of Glade Road
 - d) No preference

OVER

We're Listening!

Please indicate your preferences or provide comments.

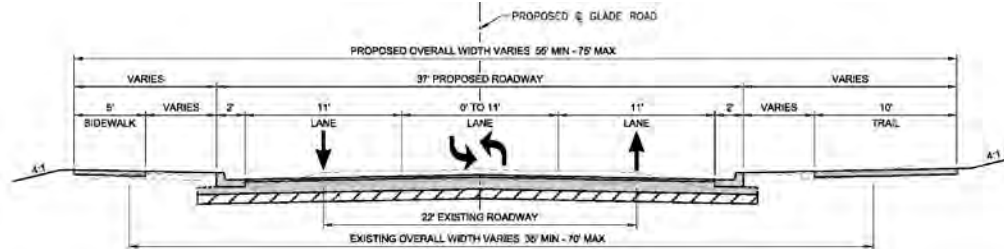


- 7) At the intersection of Glade Road and **Bransford Road** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 8) At the intersection of Glade Road and **Bedford Road** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal - Bedford Road realigned to improved sight distance
 - c) Stop sign controlled - Bedford Road realigned to improved sight distance
 - d) No improvements
- 9) At the intersection of Glade Road and **Riverwalk Drive** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 10) At the intersection of Glade Road and **Bluebonnet Road** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled on Bluebonnet Road only - Improve sight distance and remove stop signs on Glade Road
- 11) At the intersection of Glade Road and **Martin Parkway** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled
- 12) At the intersection of Glade Road and **Roberts Road / Prestwick Drive** I would prefer to see:
 - a) A roundabout
 - b) A traffic signal
 - c) Stop sign controlled

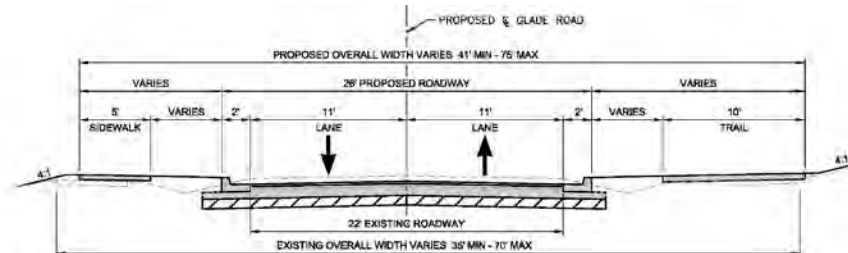
Please give any additional comment in the space provided below:

Overview of Alternatives

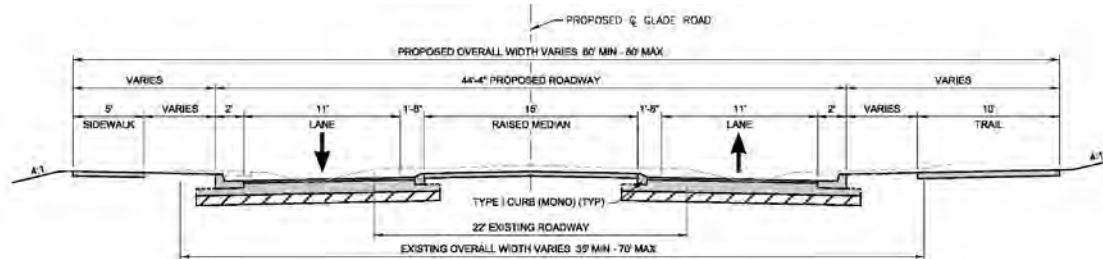
Roadway



TWO LANES WITH CONTINUOUS LEFT TURN LANE



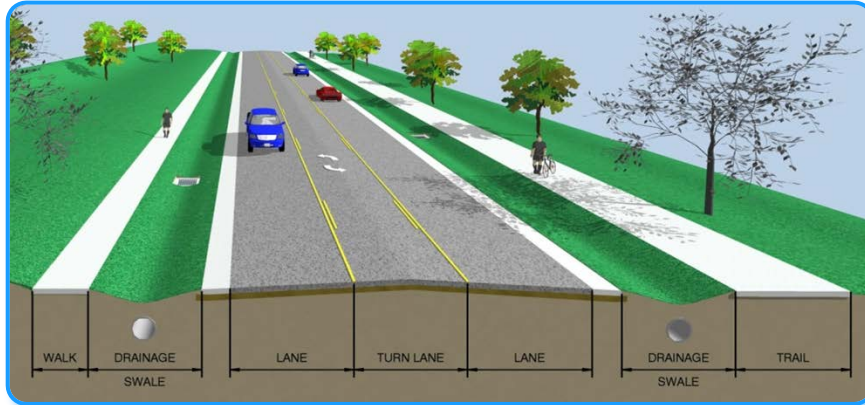
TWO LANES WITH LEFT TURN LANES WHERE WARRANTED



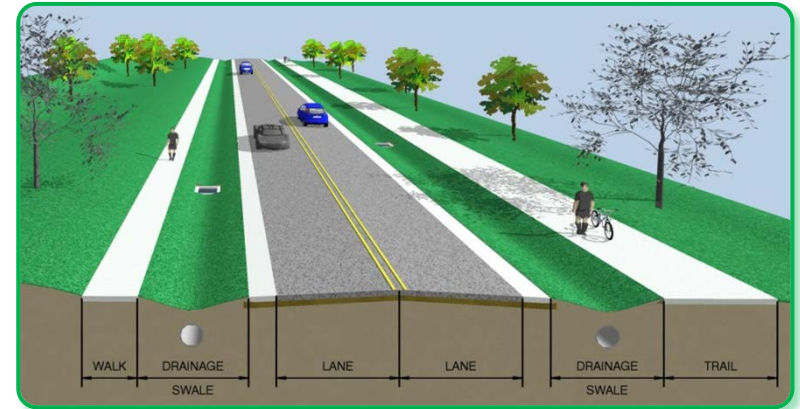
TWO LANES WITH MEDIANS AND LEFT TURN LANES

Overview of Alternatives

Roadway



**TWO LANES WITH CONTINUOUS LEFT
TURN LANE**



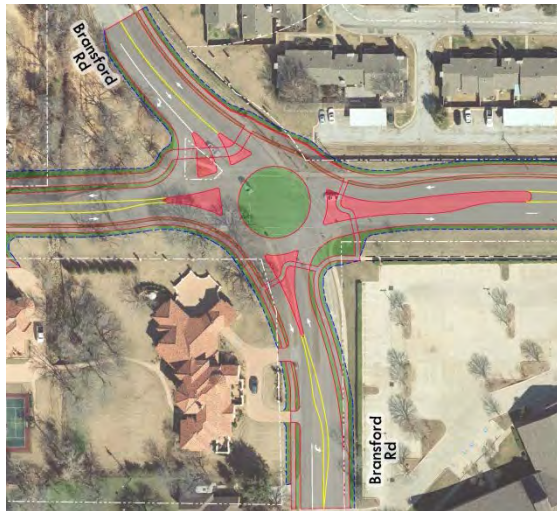
**TWO LANES WITH LEFT TURN LANES
WHERE WARRANTED**



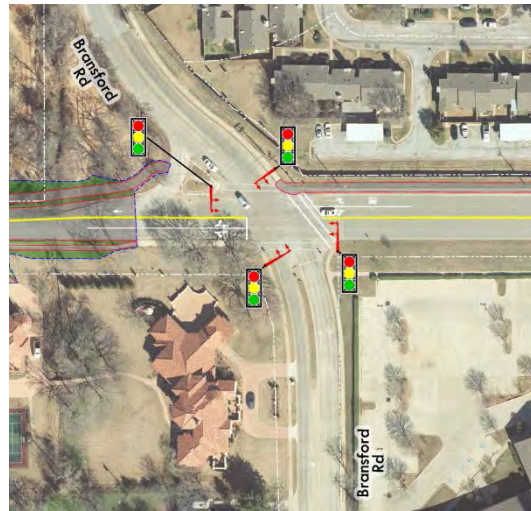
TWO LANES WITH MEDIANS AND LEFT TURN LANES

Overview of Alternatives

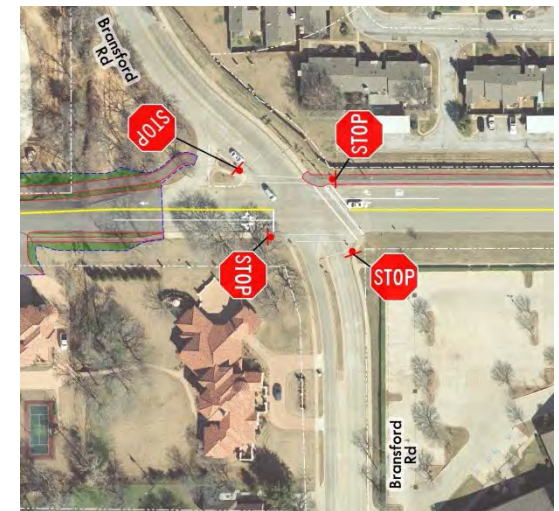
Intersections



a) Roundabout



b) Traffic signal



c) Stop sign

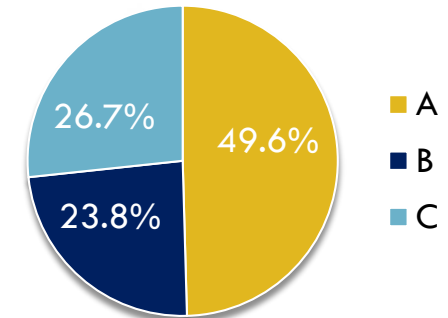
Section 1

Survey Results



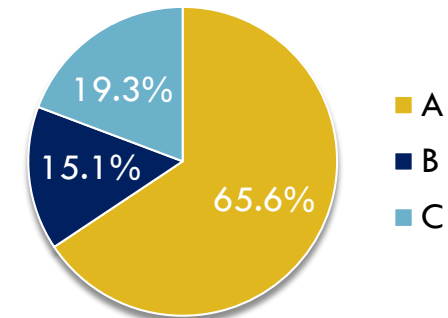
No. 1 - What is your preferred roadway configuration for Section 1? (**River Bend Dr. to Bransford Rd.**)

A) Two lanes with left-turn lanes where warranted	49.6%	169
B) Two lanes with continuous left-turn lane	23.8%	81
C) Two lanes with medians and left-turn lanes	26.7%	91



No. 7 - At the intersection of **Glade Road and Bransford Road**, I would prefer to see:

A) A roundabout	65.6%	235
B) A traffic signal	15.1%	54
C) Stop sign controlled	19.3%	69



Section 1

Recommendation



- **Two Lanes With Left Turn Lanes Where Warranted**

- Provides capacity to handle existing traffic volumes.
- Minimal development expected.
- Minimizes impacts to adjacent properties. Approximately
- 5 trees to be removed.
- Can improve sight distance at Mill View Drive.

- **Bransford Intersection – Roundabout**

- Current four-way stop is “Over Capacity”.
- Traffic signal not warranted by federal guidelines.
- Adjacent property owner open to roundabout.
- Estimated construction cost \$750,000 to \$1,000,000.
- Traffic Signal would be alternate recommendation.

Section 1

Recommendation



- **Right-of-way**
 - Number of parcels – 20 Time to acquire – 6-9 months
- **Franchise and City Utility Relocations**
 - Overhead electric, gas line and meters, communication lines and boxes
 - Water and sanitary sewer
- **Opinion of Probable Cost - \$4,948,500**
 - Construction Cost - \$4,285,000
 - Right-of-way Cost - \$270,000
 - Design Services - \$255,000
 - Right-of-way Services - \$13,500
 - Construction Services - \$125,000
- **Estimated Construction Time - 13-16 months**

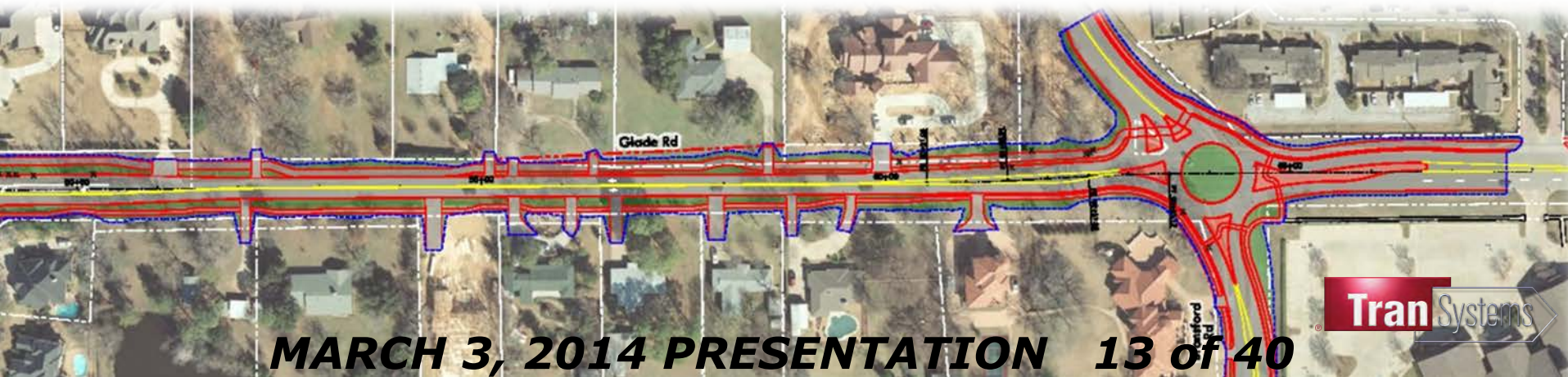
Section 1

Recommendation



Discussion

- **Two Lanes With Left Turn Lanes Where Warranted**
 - Recommendation matches Survey Results
- **Bransford Intersection – Roundabout**
 - Recommendation matches Survey Results



Section 2

Recommendation



- **Pavement Markings, Sidewalk and/or Trail**

- Minimal Changes in Section 2
- Coordination with Whole Foods development.

- **Right-of-way**

- Number of parcels – 13 (sidewalk easements)

Time to acquire – 3-6 months

- **Franchise and City Utility Relocations**

- Minor adjustments overhead electric, water and communications.

- **Opinion of Probable Cost - \$319,000**

- Construction Cost - \$210,000
- Right-of-way Cost - \$80,000
- Design Services - \$15,000
- Right-of-way Services - \$4,000
- Construction Services - \$10,000

- **Estimated Construction Time - 3 months**



-
- An aerial photograph of a suburban area with a road intersection. A yellow line with black arrows indicates a proposed transit route. Red dashed lines outline specific areas along the route. Station markers are visible along the route: 70+00, 75+00, 80+00, and 85+00. Road names include Shadowood Rd, Glade Rd, Old Glade Rd, and Thompson Ter. A road sign for SR 26 is also visible. The TranSystems logo is in the bottom right corner.
- Shadowood Rd
- Glade Rd
- Old Glade Rd
- Thompson Ter
- SR 26
- 70+00
- 75+00
- 80+00
- 85+00
- TranSystems
- MARCH 3, 2014 PRESENTATION 15 of 40**

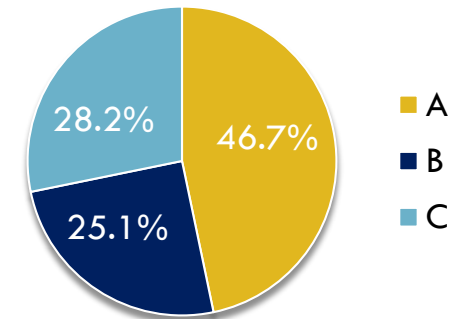
Section 3

Survey Results



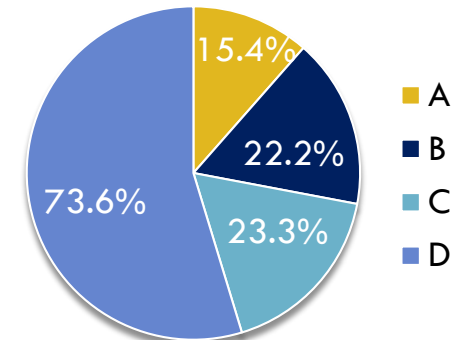
No. 2 - What is your preferred roadway configuration for Section 3? (Riverwalk Dr. to Jackson/Pool Rd.)

A) Two lanes with left-turn lanes where warranted	46.7%	164
B) Two lanes with continuous left-turn lane	25.1%	88
C) Two lanes with medians and left-turn lanes	28.2%	99



No. 8 - At the intersection of Glade Road and Bedford Road, I would prefer to see:

A) A roundabout	15.4%	55
B) A traffic signal - Bedford Road realigned to improve sight distance	22.2%	79
C) Stop sign controlled - Bedford Road realigned to improve sight distance	23.3%	83
D) No improvements	73.6%	262



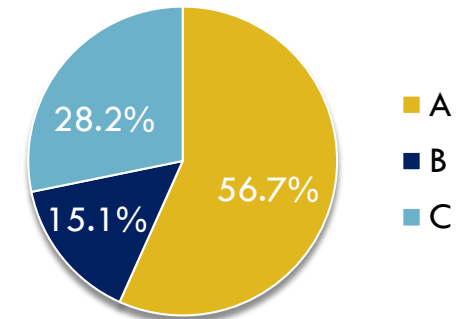
Section 3

Survey Results



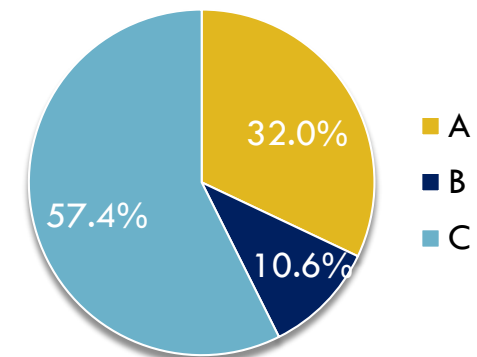
No. 9 - At the intersection of Glade Road and Riverwalk Drive, I would prefer to see:

A) A roundabout	56.7%	199
B) A traffic signal	15.1%	53
C) Stop sign controlled	28.2%	99



No. 10 - At the intersection of Glade Road and Bluebonnet Road, I would prefer to see:

A) A roundabout	32.0%	115
B) A traffic signal	10.6%	38
C) Stop sign controlled on Bluebonnet Road only – Improve sight distance and remove stop signs on Glade Road	57.4%	206



Section 3

Recommendation



- **Bedford to Bluebonnet - Two Lanes With Continuous Left Turn Lane**
 - Provides capacity to handle existing traffic volumes.
 - Several driveways accessing Glade – Left-turn lanes would overlap.
 - Approximately 37 trees to be removed.
- **Bedford Intersection – Re-align**
 - Improves intersection sight distance by approximately 120 feet.
 - Increases decision time by over 2 seconds.
 - Significant right-of-way required.
 - Estimated construction cost \$75,000 to \$100,000 (when included in larger project).

Section 3

Recommendation



- **Riverwalk Intersection – Roundabout**
 - Will improve peak hour southbound left-turn congestion.
 - Traffic signal not warranted by federal guidelines.
 - This will include drainage improvements.
 - Significant right-of-way required.
 - Impacts to residential property south of intersection.
 - Estimated construction cost \$750,000 to \$1,000,000.
 - Impacts to residential property south of intersection.

Section 3

Recommendation



- **Bluebonnet Intersection – Stop Sign on Bluebonnet Approach**
 - Lower intersection 5'-6' to improve sight distance.
 - Removing stop signs on Glade Road will eliminate traffic congestion.
 - Minimal traffic on Bluebonnet.
 - Will require relocation of private drive to Stafford Drive.
- **Bluebonnet to Pool/Jackson - Two Lanes With Left Turn Lanes Where Warranted**
 - Provides capacity to handle existing traffic volumes.
 - Minimizes impacts to adjacent properties.
 - Approximately 16 trees to be removed.
 - Can improve sight distance at various locations.

Section 3

Recommendation



- **Right-of-way**
 - Number of parcels – 45 Time to acquire – 12-18 months
- **Franchise and City Utility Relocations**
 - 2600 LF 8" waterline relocation (Bluebonnet)
 - 4600 LF gas line relocation (Bluebonnet)
 - Overhead electric, gas line and meters, communication lines and boxes
 - Water and sanitary sewer
- **Opinion of Probable Cost - \$8,613,000**
 - Construction Cost - \$6,700,000
 - Right-of-way Cost – \$1,250,000
 - Design Services - \$400,000
 - Right-of-way Services - \$63,000
 - Construction Services - \$200,000
- **Estimated Construction Time - 24-28 months**

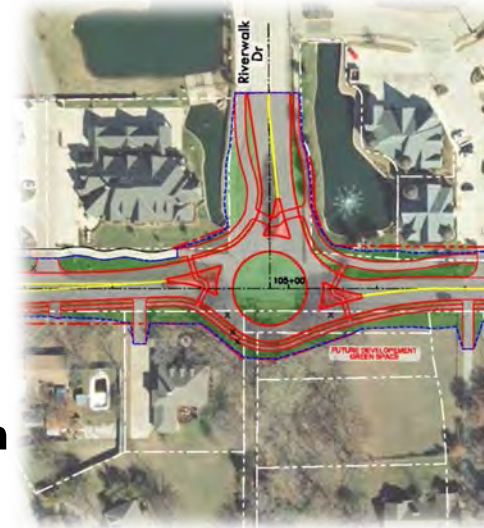
Section 3

Recommendation



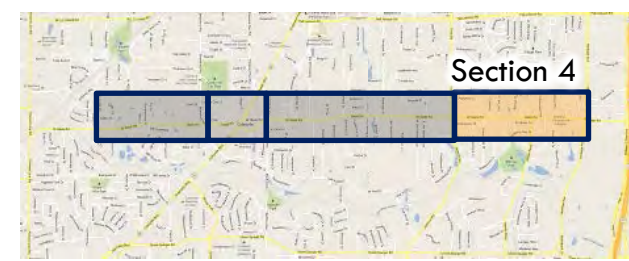
Discussion

- **Bedford to Bluebonnet - Two Lanes With Continuous Left**
 - Survey Results - Two Lanes With Left Turn Lanes Where Warranted
- **Bedford Intersection – Re-align**
 - Survey Results - No improvements
- **Riverwalk Intersection – Roundabout**
 - Recommendation matches Survey Results
- **Bluebonnet Intersection – Stop Sign on Bluebonnet Approach**
 - Recommendation matches Survey Results
- **Bluebonnet to Pool/Jackson - Two Lanes With Left Turn Lanes Where Warranted**
 - Recommendation matches Survey Results



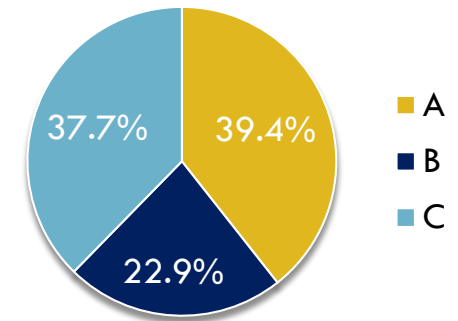
Section 4

Recommendation



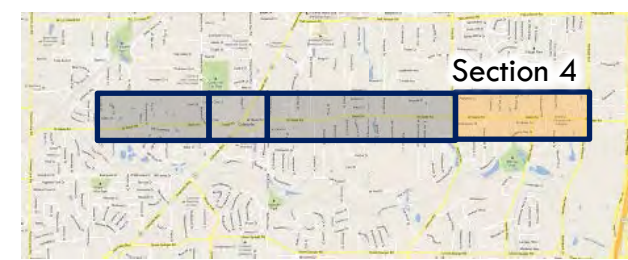
No. 3 - What is your preferred roadway configuration for Section 4 (**Jackson/Pool Rd. to Heritage Ave.**)?

A) Two lanes with left-turn lanes where warranted	39.4%	139
B) Two lanes with continuous left-turn lane	22.9%	81
C) Two lanes with medians and left-turn lanes	37.7%	133



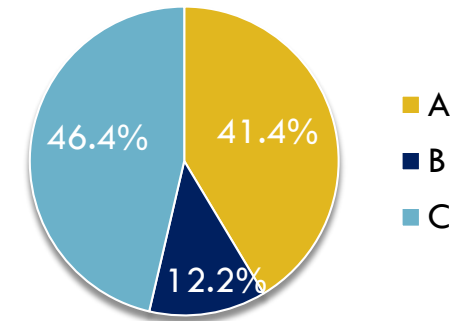
Section 4

Survey Results



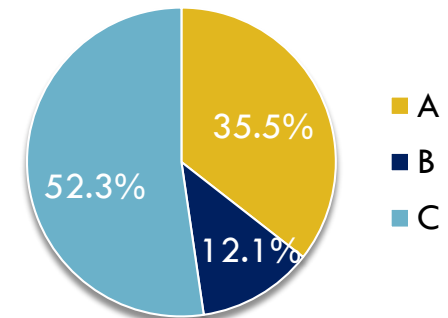
No. 11 - At the intersection of **Glade Road and Martin Parkway**, I would prefer to see:

A) A roundabout	41.4%	142
B) A traffic signal	12.2%	42
C) Stop sign controlled	46.4%	159



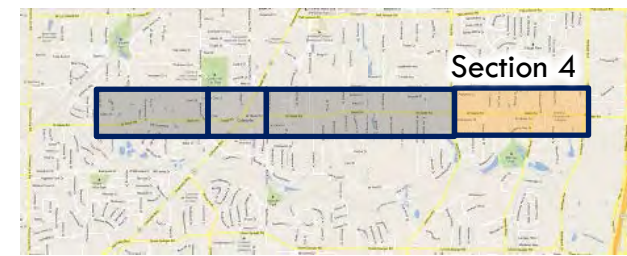
No. 12 - At the intersection of **Glade Road and Roberts Road / Prestwick Drive**, I would prefer to see:

A) A roundabout	35.5%	123
B) A traffic signal	12.1%	42
C) Stop sign controlled	52.3%	181



Section 4

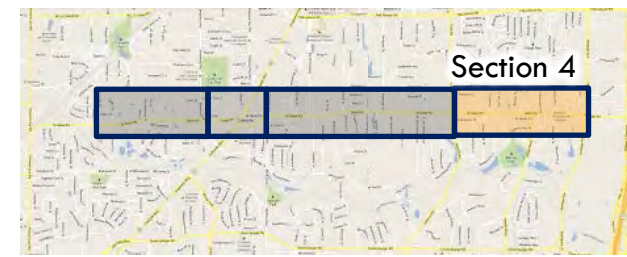
Recommendation



- **Two Lanes With Medians And Left Turn Lanes**
 - Provides capacity to handle existing traffic volumes.
 - Matches existing section of Glade Road just west of Heritage Avenue.
 - Median will be mountable with stamped colored concrete (no landscaping).
 - Approximately 16 trees to be removed.
 - Add additional lane from Heritage Avenue to Roberts Road
- **Martin Parkway Intersection – Stop Sign on Martin Parkway**
 - Traffic signal not warranted by federal guidelines.
 - Roundabout created significant impacts to adjacent property owners.
- **Roberts Road Intersection - Stop Sign on Roberts Road/Prestwick Parkway**
 - Traffic signal not warranted by federal guidelines.
 - Roundabout created significant impacts to adjacent property owners.
 - Add additional southbound lane, right-turn lane on Roberts Road

Section 4

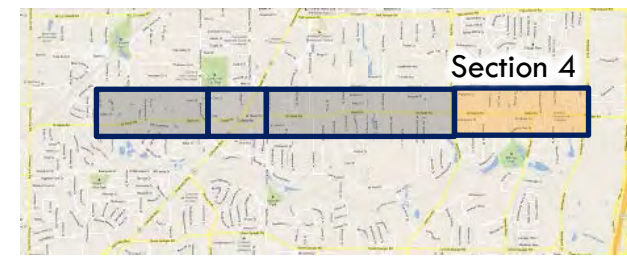
Recommendation



- **Right-of-way**
 - Number of parcels - 7 Time to acquire – 6-9 months
- **Franchise and City Utility Relocations**
 - Overhead electric, gas line and meters, communication lines and boxes
 - Water and sanitary sewer
- **Opinion of Probable Cost - \$3,694,500**
 - Construction Cost - \$3,205,000
 - Right-of-way Cost – \$195,000
 - Design Services - \$190,000
 - Right-of-way Services - \$9,500
 - Construction Services - \$95,000
- **Estimated Construction Time - 12-14 months**

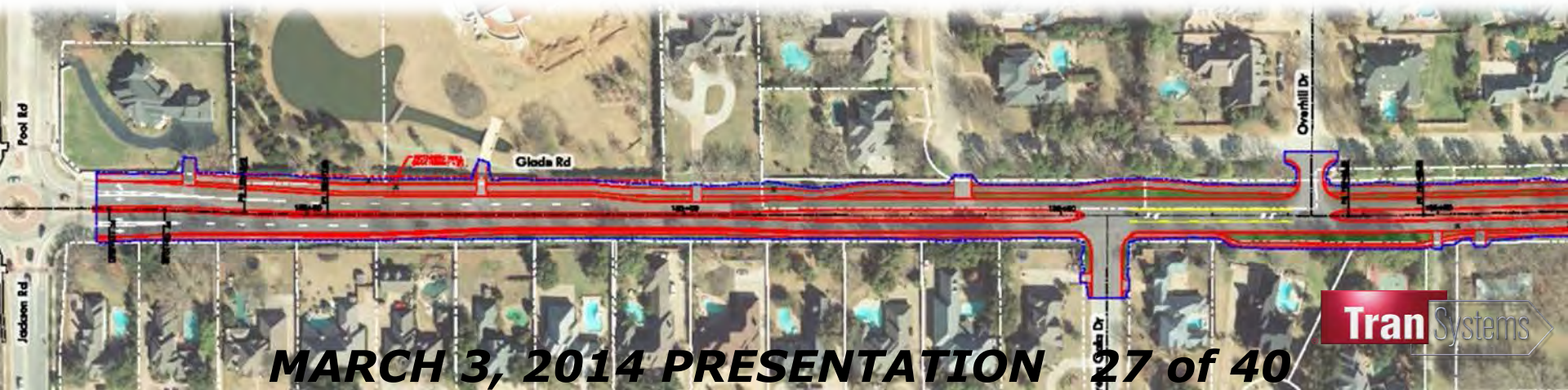
Section 4

Recommendation



Discussion

- **Two Lanes With Medians And Left Turn Lanes**
 - Survey Results - Two Lanes With Left Turn Lanes Where Warranted (by narrow margin)
- **Martin Parkway Intersection – Stop Sign on Martin Parkway**
 - Recommendation matches Survey Results
- **Roberts Road Intersection - Stop Sign on Roberts Road/Prestwick Parkway**
 - Recommendation matches Survey Results



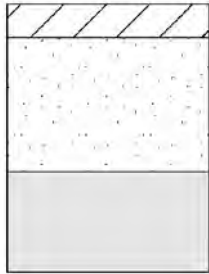
Corridor Features

Pavement Sections



Typical Engineered Pavement Section

Asphalt



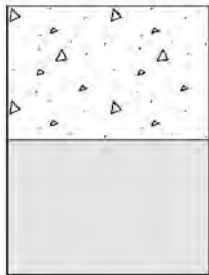
2" Asphalt Surface Course

6"-8" Asphalt Base Course

8"-12" Stabilized Subgrade

- 30 plus year design life
- Reduced road noise
- Faster construction
- Sustainable material
- Maintenance can be performed by City crews

Concrete



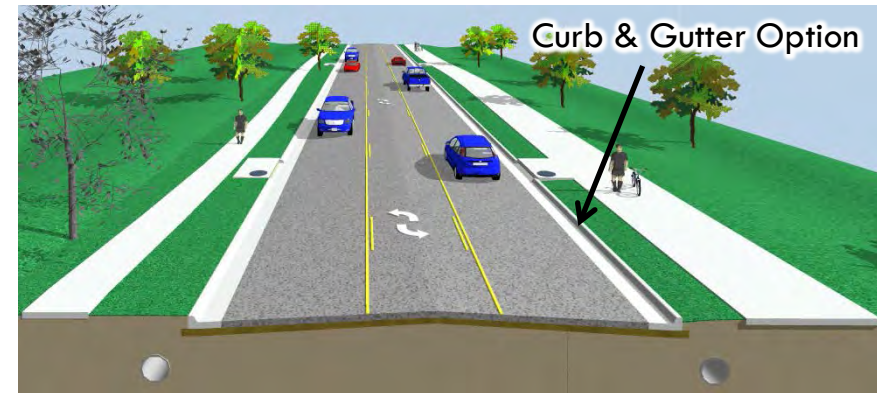
8"-10" Concrete

6"-8" Stabilized Subgrade

- 30 plus year design life
- Increased construction time due to required curing time
- Increased complexity in construction phasing
- Durable material
- Maintenance requires a contractor

Corridor Features

Roadway Drainage



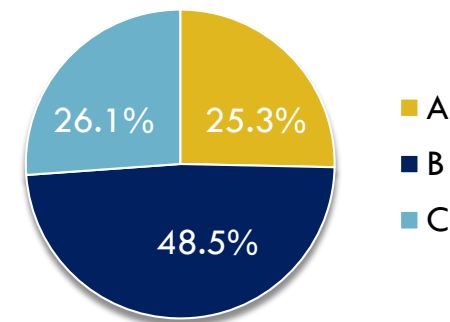
Corridor Features

Survey Results



No. 4 - Do you have a preference on which **pavement type** is used for Glade Road?

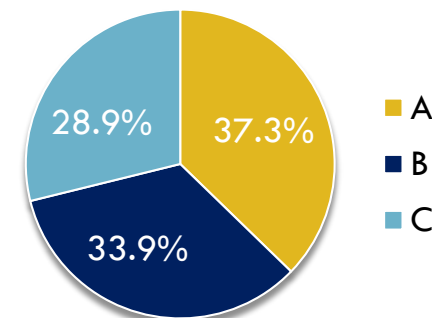
A) Yes, asphalt	25.3%	95
B) Yes, concrete	48.5%	182
C) No preference	26.1%	98



Note: After the first public meeting asphalt was the preferred pavement type.

No. 5 - Do you have a preference on whether **curb and gutter** or a **ribbon curb** is used for Glade Road?

A) Yes, curb and gutter with storm drain	37.3%	133
B) Yes, ribbon curb with engineered swales with storm drain	33.9%	121
C) No preference	28.9%	103



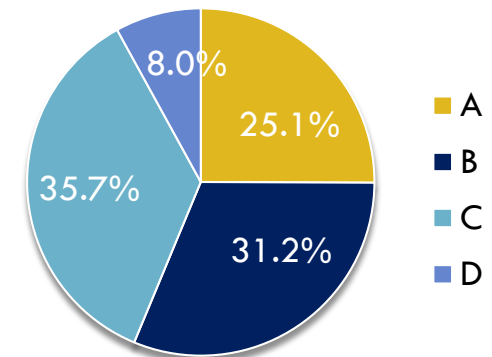
Corridor Features

Survey Results



No. 6 - Would you like to have sidewalks/trails along Glade Road?

A) Yes, 5' sidewalk on the south side and 10' trail on the north side of Glade Road	25.1%	94
B) Yes, 5' sidewalk on both sides of Glade Road	31.2%	117
C) Yes, 5' sidewalk only on one side of Glade Road	35.7%	134
D) No preference	8.0%	30



Corridor Features

Recommendation



- **Asphalt Pavement**

- Cost neutral when compared to concrete.
- Asphalt and concrete provide similar design life.
- Reduced road noise.
- Faster construction and reduced complexity in construction phasing.
- Utilize existing concrete where possible.
- Minor maintenance can be performed by City crews.

- **Curb and Gutter with Storm Drain**

- Requires less right-of-way.
- Provides a barrier between vehicular and pedestrian traffic.
- Sidewalk can be adjacent to the curb when needed.
 - To avoid conflicts with trees.
 - Minimize right-of-way.

Corridor Features

Recommendation



- **Sidewalks and/or Trails**

- City's master sidewalk plan suggests the desire to provide:
 - 10' trail on the north and a 5' sidewalk on the south
- Can impact the amount of right-of-way required.
- Can impact the number of trees to be removed.
- Mixed survey results.

- **Street Lighting**

- Continuous lighting.
- Safety lighting at intersections.
- No lighting.
- Impacts on adjacent property owners.
- Balance between safety and rural feel.
- The City leases street lights from Oncor.

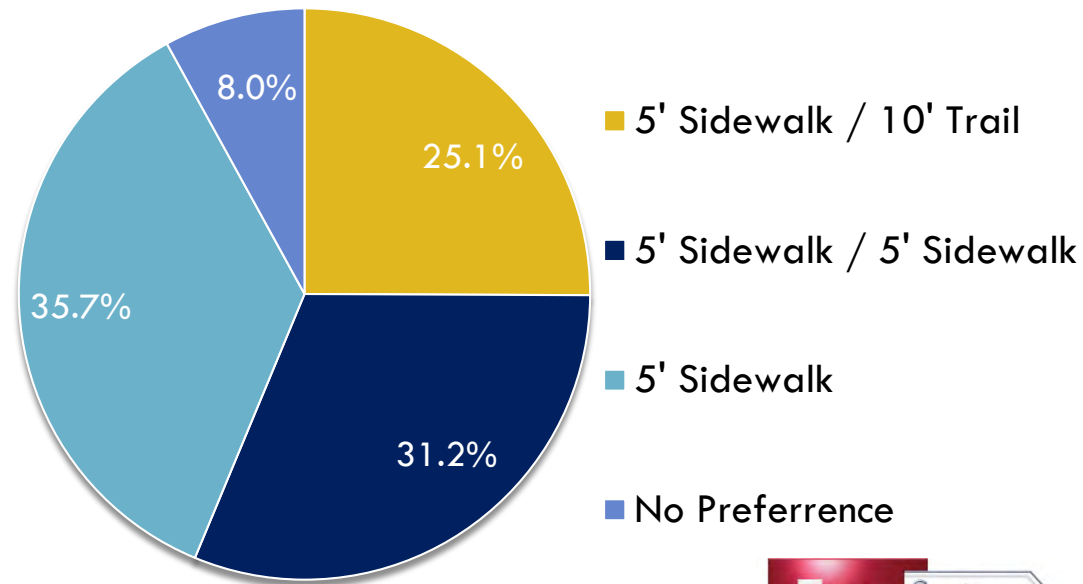
Corridor Features

Recommendation



Discussion

- **Asphalt Pavement**
 - Survey Results – Concrete pavement
- **Curb and Gutter with Storm Drain**
 - Recommendation matches Survey Results
- **Sidewalks and/or Trails**
 - Mixed survey results.
- **Street Lighting**



Project Phasing

Constraints

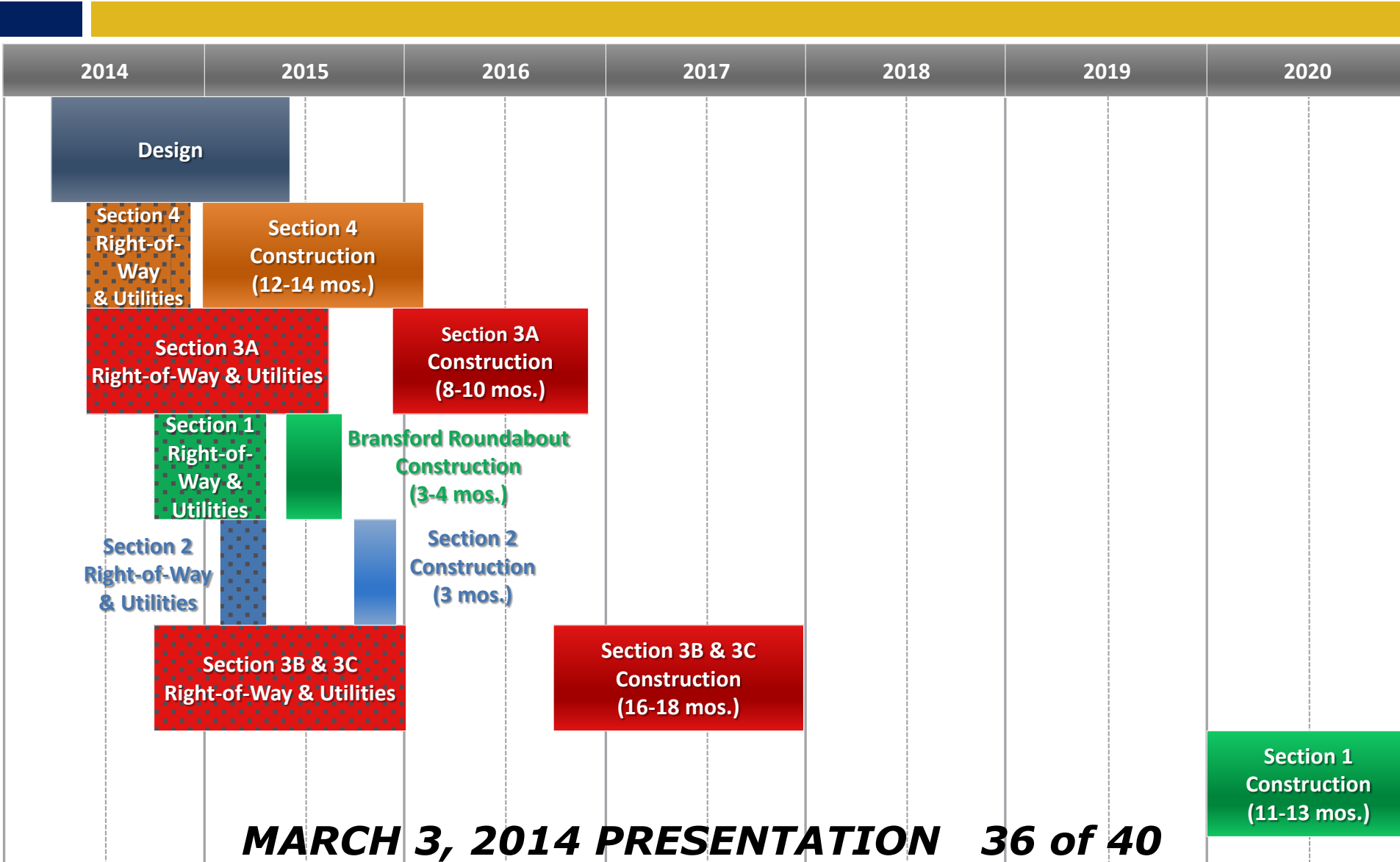


What Controls Project Phasing?

- **Right-of-way Acquisition (Number of Parcels, Difficult Acquisitions)**
- **Utility Coordination and Relocations (Franchise and City Utilities)**
- **Final Design and Bidding**
- **Bid Packages**
- **Bransford Elementary School**
- **SH 26 Construction**
- **Construction Time**
- **Budgeted Project Funding – Glade Road**
- **City Council Preference**

Project Phasing

Schedule





Project Phasing

Schedule



		Project Costs
2014	Design Services	\$ 430,000.00
	Right-of-way Services	\$ 45,000.00
	Section 1 Right-of-way	\$ 100,000.00
	Section 3 Right-of-way	\$ 625,000.00
	Section 4 Right-of-way	\$ 195,000.00
		\$ 1,395,000.00

2015	Design Services	\$ 430,000.00
	Construction Services	\$ 135,000.00
	Right-of-way Services	\$ 45,000.00
	Section 1 Right-of-way	\$ 170,000.00
	Section 2 Right-of-way	\$ 80,000.00
	Section 3 Right-of-way	\$ 625,000.00
	Section 4A (Jackson-Pool Road to Martin Pkwy)	\$ 2,970,000.00
	Section 4B (Martin Pkwy to Heritage Ave.)	\$ 235,000.00
	Bransford RAB	\$ 910,000.00
	Bedford Road	\$ 115,000.00
	Section 3A (Bedford Road to Manning Drive)	\$ 108,500.00
	Section 2 (Shadowood Trail to Bedford Rd)	\$ 210,000.00
		\$ 6,033,500.00



Project Phasing

Schedule



		Project Costs
2016	Construction Services	\$ 75,000.00
	Section 3A (Bedford Road to Manning Drive)	\$ 2,061,500.00
	Section 3B (Manning Drive to Monclair Street)	\$ 495,000.00
		\$ 2,631,500.00
2017	Construction Services	\$ 120,000.00
	Section 3B (Manning Drive to Monclair Street)	\$ 1,980,000.00
	Section 3C (Montclair Street to Jackson-Pool Rd.)	\$ 1,940,000.00
		\$ 4,040,000.00
2018	No Work	\$ -
		\$ -
2019	No Work	\$ -
		\$ -
2020	Construction Services	\$ 100,000.00
	Section 1A (River Bend Dr to Mill View Dr)	\$ 1,950,000.00
	Section 1B (Mill View Dr to Bransford Roundabout)	\$ 1,425,000.00
		\$ 3,475,000.00

Opinion of Probable Cost

SECTION 1

Section 1A (River Bend Dr to Mill View Dr)	\$ 1,950,000.00
Section 1B (Mill View Dr to Bransford Roundabout)	\$ 1,425,000.00
Bransford RAB	\$ 910,000.00
Section 1 Total	\$ 4,285,000.00

SECTION 2

Section 2 (Shadowood Trail to Bedford Rd)	\$ 210,000.00
Section 2 Total	\$ 210,000.00

SECTION 3

Bedford Road	\$ 115,000.00
Section 3A (Bedford Road to Manning Drive)	\$ 2,170,000.00
Section 3B (Manning Drive to Monclair Street)	\$ 2,475,000.00
Section 3C (Montclair Street to Jackson-Pool Road)	\$ 1,940,000.00
Section 3 Total	\$ 6,700,000.00

SECTION 4

Section 4A (Jackson-Pool Road to Martin Parkway)	\$ 2,970,000.00
Section 4B (Martin Parkway to Heritage Avenue)	\$ 235,000.00
Section 4 Total	\$ 3,205,000.00

Construction Total \$ 14,400,000.00

RIGHT-OF-WAY

Section 1 Right-of-way	\$ 270,000.00
Section 2 Right-of-way	\$ 80,000.00
Section 3 Right-of-way	\$ 1,250,000.00
Section 4 Right-of-way	\$ 195,000.00
Right-of-way Total	\$ 1,795,000.00

SOFT COSTS

Design Services (6%)	\$ 860,000.00
Right-of-way Services (5%)	\$ 90,000.00
Construction Mgmt/Inspection (3%)	\$ 430,000.00
Soft Cost Total	\$ 1,380,000.00

Soft Cost Total \$ 1,380,000.00

Right-of-way Total \$ 1,795,000.00

Construction Total \$ 14,400,000.00

Project Total \$ 17,575,000.00

Next Steps

- **Public Meeting to Display Final Plan? Format?**
- **Prepare Preliminary Engineering Study Report.**
- **Design, Right-of-way and Utility Coordination.**

Glade Road Project Update

**Pre Council Meeting
October 21, 2014**

Overview



- Project history
- Update on the tree impact analysis
- Glade Road accident data
- Status of work to date

Project History



October 5, 2011 – Pre Council presentation on the Glade Road and Bluebonnet Drive intersection

July 2, 2012 – Preliminary engineering study authorized for Glade Road from Heritage Avenue to SH26 (Colleyville Boulevard)

November 20, 2012 – Results of preliminary engineering study presented to City Council

February 19, 2013 – Engineering services agreement approved for concept design from Heritage Avenue to west City limits

Project History



May 7, 2013 – Preview of the public meeting presentation delivered to City Council during a Pre Council session

May 23, 2013 – Initial Public Input Meeting

November 5, 2013 – City Council updated on the status of the project and feedback received at initial Public Input Meeting

November 18, 2013 – Second Public Input Meeting
(Concept Designs Presented)

March 3, 2014 – Recommended design presented to City Council

Project History



April 16, 2014 – City Council Worksession to review recommended design

June 17, 2014 – Pre Council discussion to review recommended design

June 30, 2014 – City Council Worksession to discuss the project. City Council provided direction to proceed with the final design of the section between Bransford Road and Manning Drive

July 15, 2014 – Approval of a final design contract for the section between Bransford Road and Manning Drive

Project History



August 6, 2014 – City Council Worksession to review the Glade Road Corridor

October 3, 2014 –Acquisition of 1209 Glade Road (right-of-way necessary for the roundabout at the Riverwalk Drive Intersection)

October 6, 2014 – Petition to limit scope of the Glade Road Project submitted to the City of Colleyville

Tree Impact Analysis



Phases of Analysis

- **Phase I** – Inventory of trees along and adjacent to the corridor
 - Identify location, size, species, and quantities of trees (***completed***)
- **Phase II** – Identify trees that are expected to be directly impacted by proposed improvements
 - Work with the design consultant to determine the trees that will have to be removed for the construction of the proposed improvements (***will be performed in conjunction with the Final Concept Design***)
- **Phase III** – Identify trees that may be indirectly impacted by the proposed improvements
 - Work with the design consultant and arborist to determine the indirect impact of the construction activities to the remaining trees along the corridor (***will be performed in conjunction with the Final Construction Design once 60% of the plans are available***)

Phase I: Tree Inventory

Overview of Tree Inventory

• Scope

- West City limits to Heritage Road
- Used the Master Thoroughfare Plan ultimate ROW width of 95' plus a 10' buffer on both the north and south sides to determine the breadth of the study along the corridor
- Inventoried all (accessible) trees within the study area to collect the following data:
 - Location, diameter breast high (DBH) (aka caliper inches), species, condition and comments

• Notification

- Mailed to over 200 homes and businesses



Phase I: Tree Inventory

Section Limits	Trees w/i 47.5' of centerline	Trees w/i 57.5' of centerline
City limit (west) – Bransford Road	190	13
Bransford Road – Manning Drive	186	82
Manning Drive – Pool Road	302	26
Pool Road – Heritage Avenue	126	20
Total	804	141

Location	# of trees
South of street centerline	478
North of street centerline	467

Common Name	#	Average DBH
Post Oak	212	12.2"
American Elm	69	15.7"
Live Oak	52	11.0"
Crepe Myrtle	44	2.9"
Shumard Red Oak	39	9.2"
Hackberry	33	11.5"
Bradford Pear	32	13.4"
Pin Oak	31	16.2"
Blackjack Oak	27	10.1"
Slash Pine	25	22.1"

Phase I: Tree Inventory

Phase I of the three phase Tree Impact Analysis has been completed. This provides a baseline of information including:

- Location
- Size
- Species
- Quantities of the trees along and adjacent to the corridor

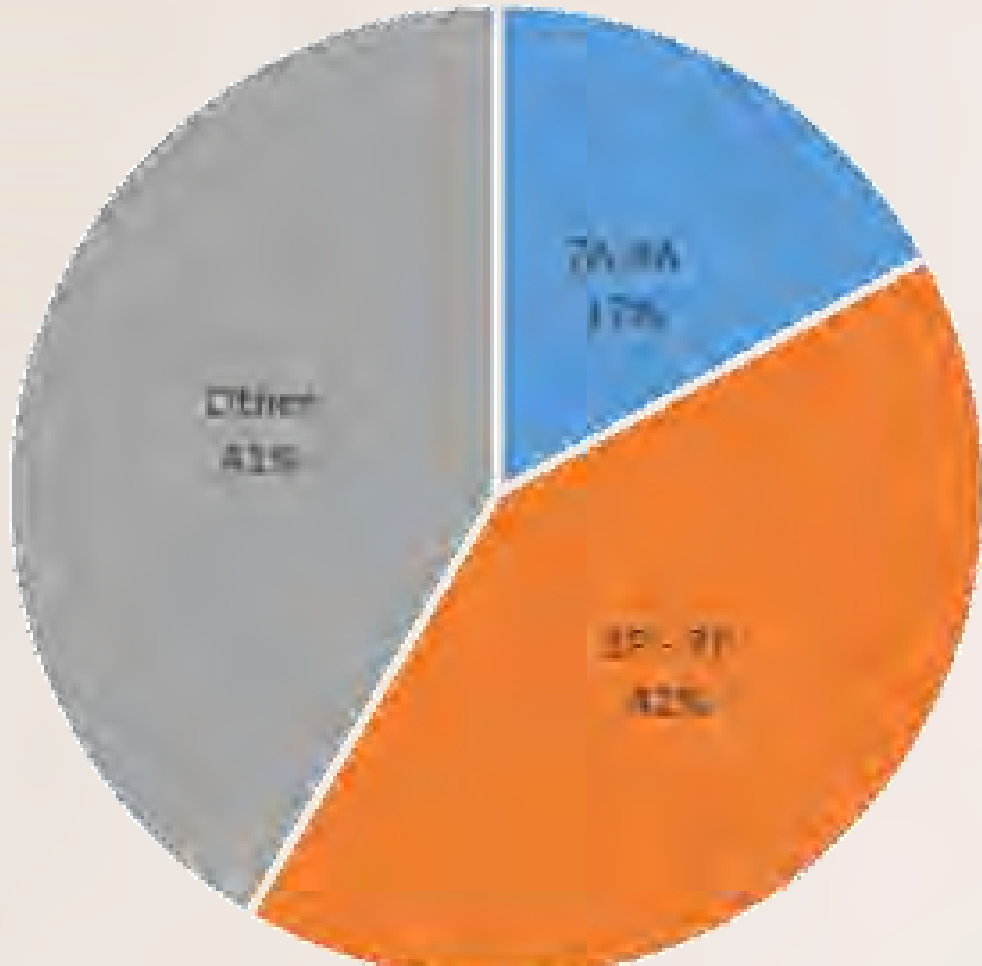
Phase II and III will aid in the decision process for future improvements

- The information may be overlaid on the design/construction documents
- Select a route of "least resistance" for future pedestrian mobility elements
- Select routes based on not only the location of trees, but also on the current condition, species, and size of trees

Glade Road Accident Data



Glade Road accidents by time (2012, 2013, 2014 Combined)



Glade Road Crashes Involving Injuries		
Year	Reported Injuries	Transported
2012	4	2
2013	9	2
2014	7	1
Total	20	5

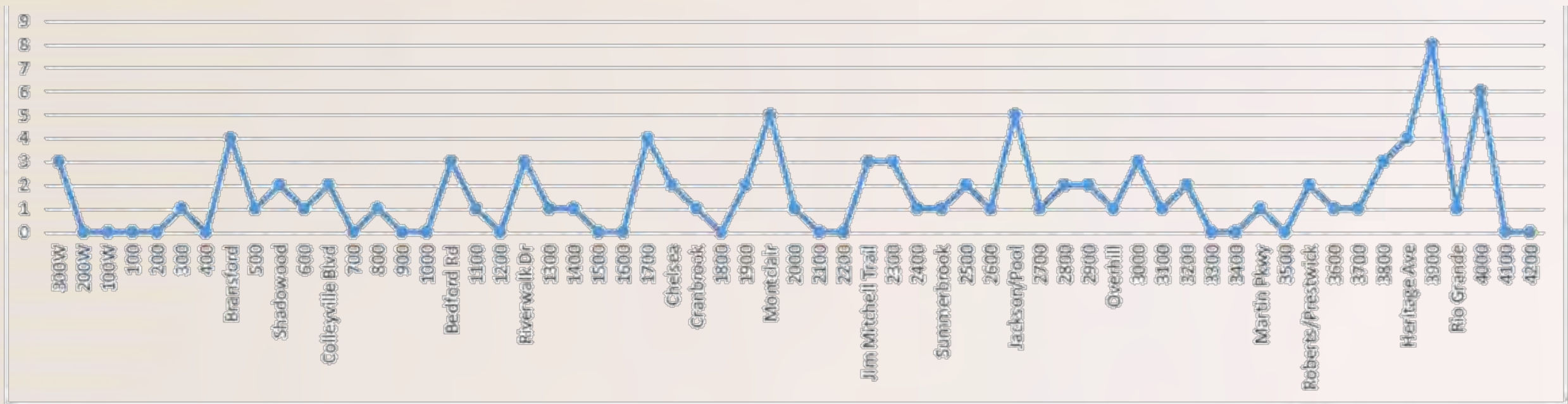
Total Glade Road Crashes by Year		
Year	Total Crashes	Total Through Sept 30
2012	31	23
2013	35	27
2014	28*	28
Total	94	

* = Through Sept 30

Glade Road Accident Data



Number of Glade Road accidents by block (2012, 2013, 2014 Combined)



Glade Road Common Contributing Factors by Year				
Year	Driver Inattention	Followed too Closely	Failed to Control Speed	Failure to Yield the Right of Way
2012	7	7	8	11
2013	3	9	6	11
2014	4	3	8	2
Total	14	19	22	24

Status of work to date



Currently on Hold:

Glade Road Phase I (Bransford Road to Manning Drive)

- Final Design Construction Plans (45% Complete)
- Rights of Way Plans (70% complete)
 - Staff was prepared to meet with property owners in November
- Utility Coordination
 - Preliminary plans sent to franchise utilities
 - A meeting with all utilities was planned for November

Status of work to date



Currently on Hold:

Glade Road Phase I (Bransford Road to Manning Drive)

- Project Includes
 - Roundabout at Bransford Road Intersection
 - Realignment of the Bedford Road Intersection
 - Roundabout at the Riverwalk Drive Intersection
 - Address the undersized box culverts under Glade Road at Riverwalk Drive (drainage issue)
 - Lowering of the road at Bluebonnet Drive to allow for improved sight distance and the removal of the stop signs along Glade Road

Petition Received



On October 6, 2014, the City of Colleyville received a petition regarding the Glade Road Project. The key points of the petition include:

- Prohibition of the any improvements that will widen the roadway
- No construction is permitted that would result in the potential flooding of homes or the potential loss of mature trees
- Prohibition of the addition of medians to the roadway
- Prohibition of the construction of any sidewalk or trail along the north side of Glade Road
- Left turn lanes and roundabouts can only be built where "deemed necessary by polling area residents"

Questions and Discussion



GLADE ROAD PROJECT

APRIL 16, 2014 PRESENTATION 1 of 27

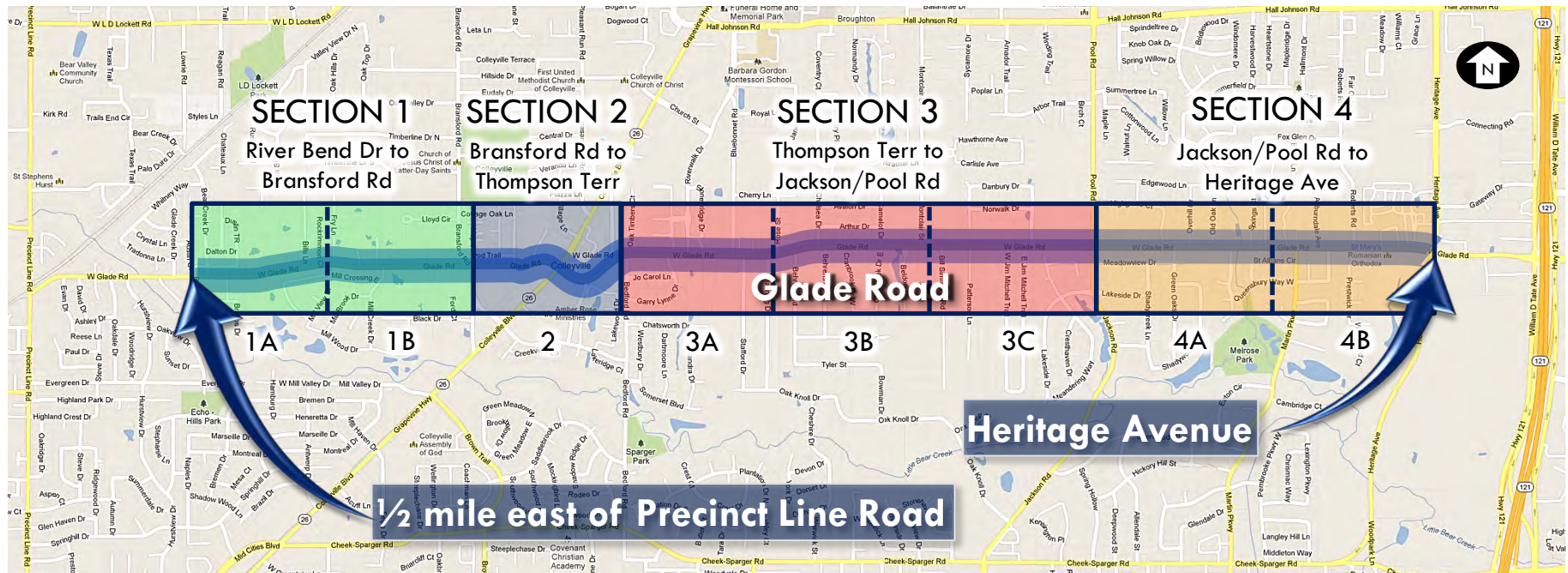
Workshop Agenda

- **Bransford Roundabout**
- **Bedford Intersection/Roundabout**
- **Section 3 Revisions (Left turn lanes)**
- **Roadway Section/Curb Type Discussion**
- **Project Phasing**
- **Summary of Recommendation**



Purpose:

Provide a vision and plan for future improvements to Glade Road.



Project Study Approach

Gather / Analyze Data

Roadway Geometry
Traffic Data
Accident Data

Public Involvement

Public meetings and presentations
Gather public input

Develop Alternatives

Present Alternatives / Gather Public Input

Make Recommendation

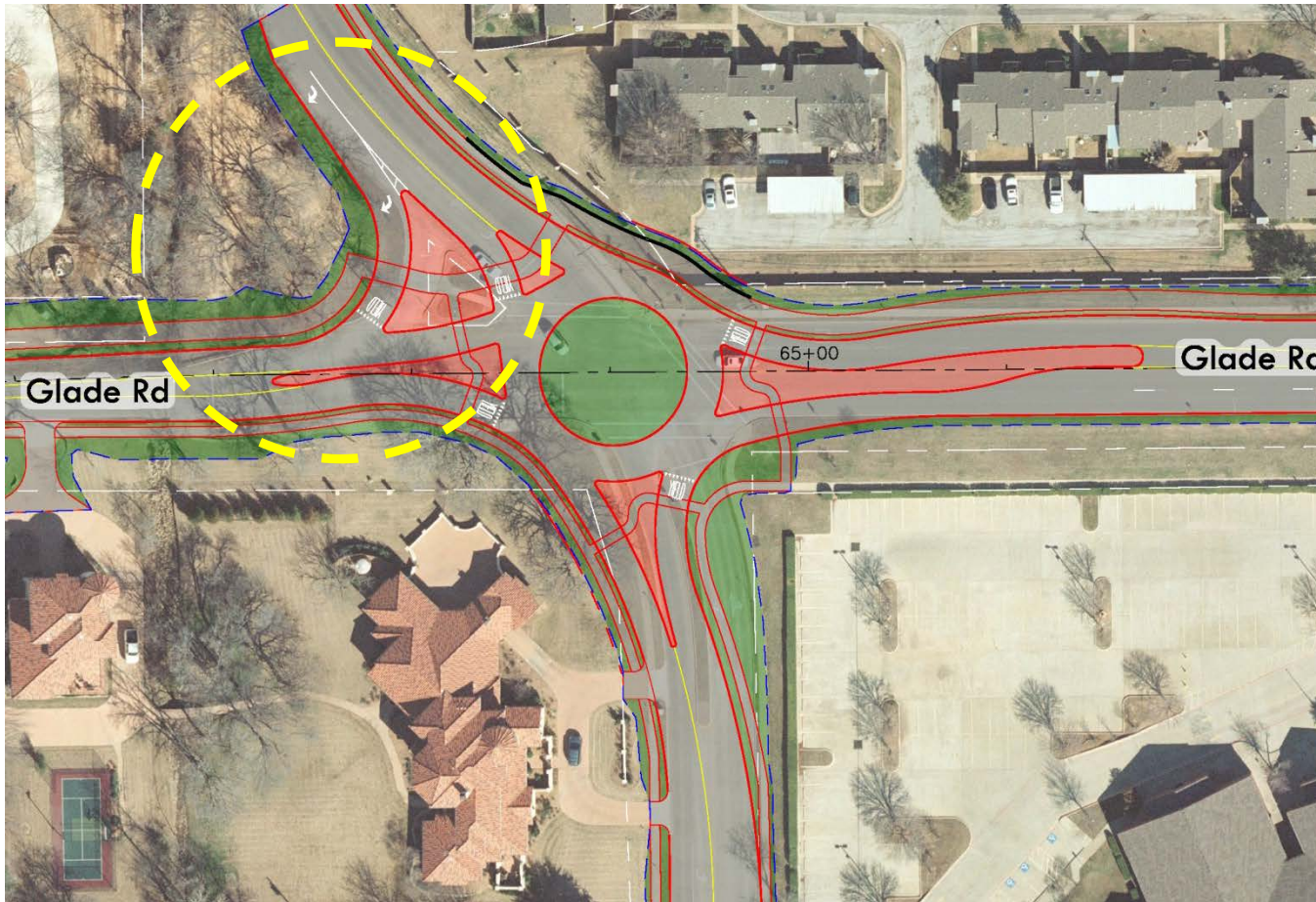
Develop a preferred alternative that fits Glade Road
Mitigate issues with strategic improvements

Section 1

Bransford Roundabout



- **Revised southbound right turn**

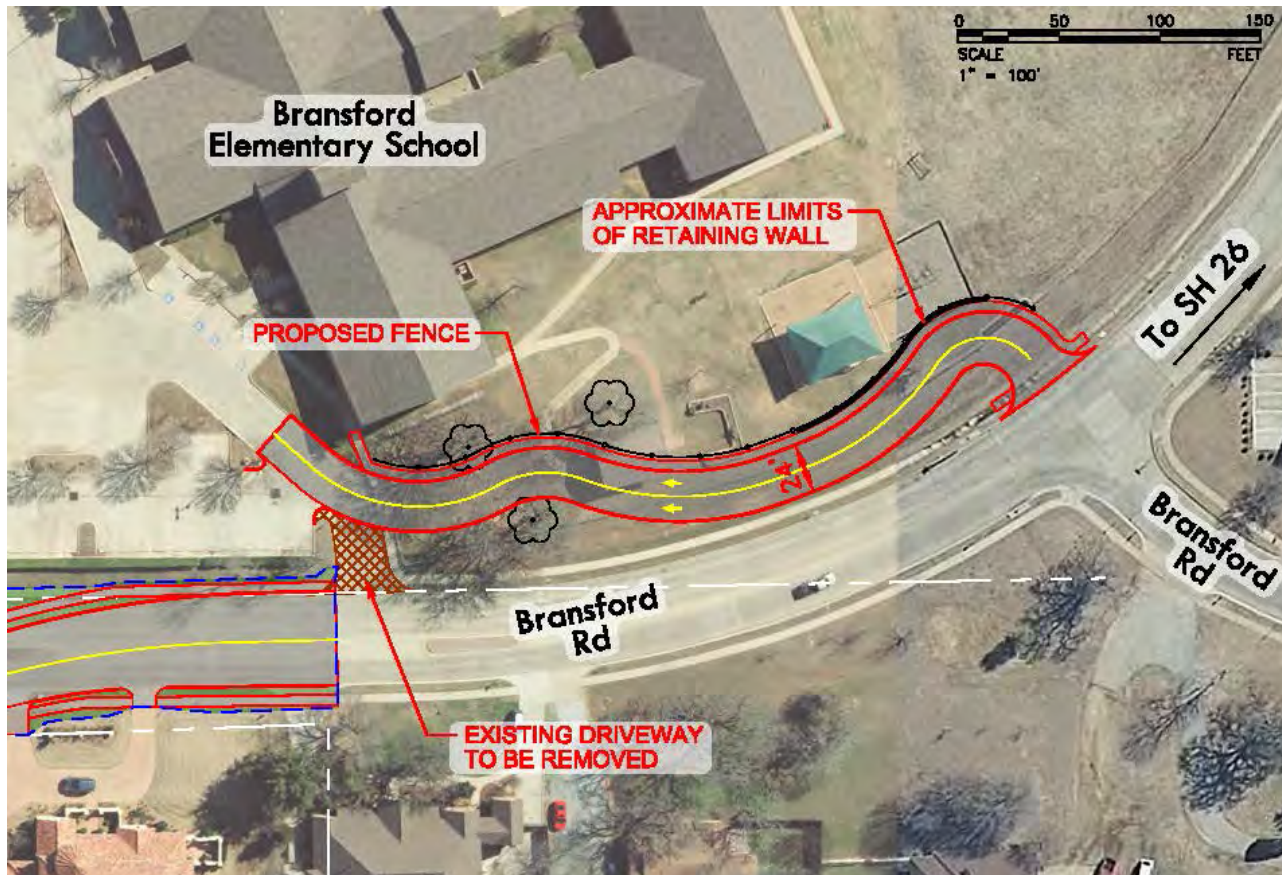


Section 1

Bransford Roundabout

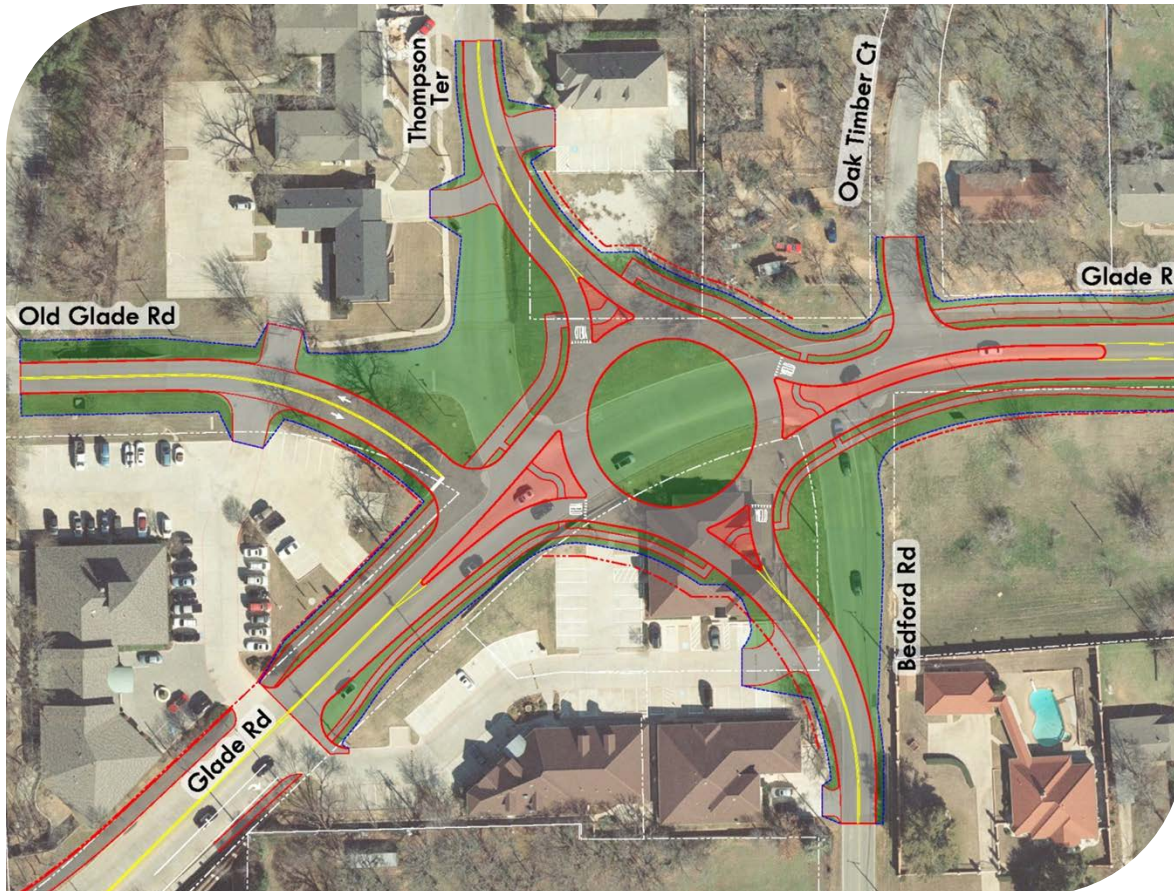


- Concerns southbound school traffic backing up into roundabout



Section 3

Bedford Road – Thompson Terrace

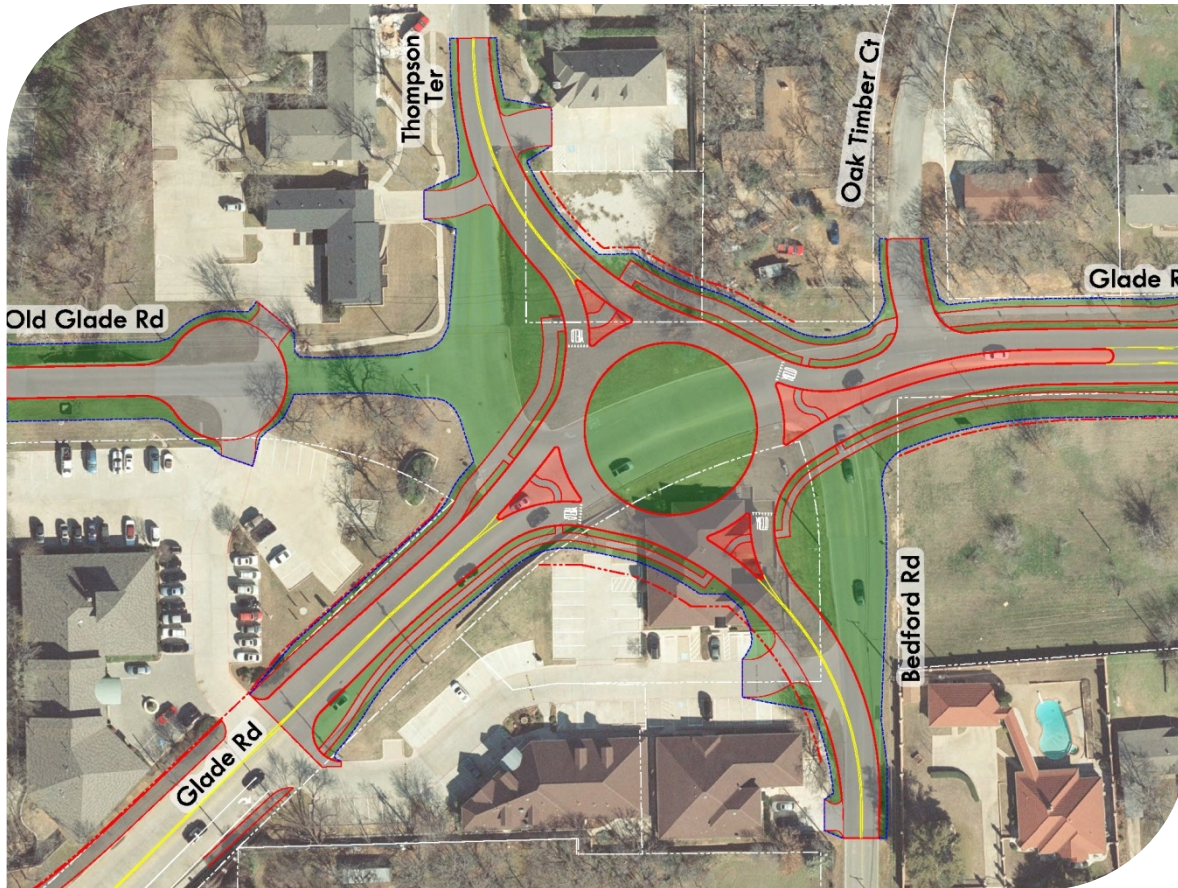


Single roundabout aligning Bedford and Thompson Terrace

- **Old Glade Road**
 - Two-Way
 - Right-in / Right-out
- **Oak Timber Court**
 - Two-Way
 - Right-in / Right-out
- **Impacts**
 - Four commercial properties
- **Cost**
 - Construction = \$1.5 million
 - Right-of-way = \$1.0 million
 - **Total = \$2.5 million**

Section 3

Bedford Road – Thompson Terrace

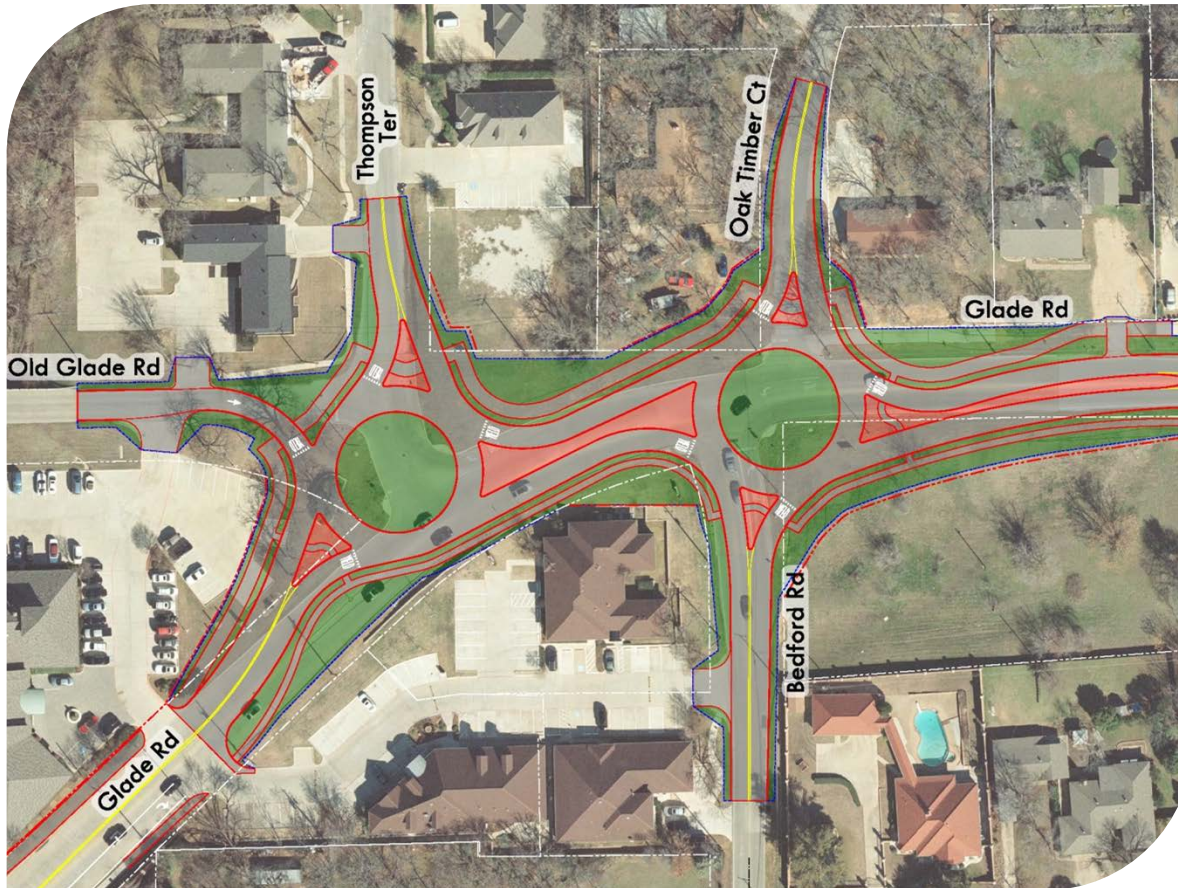


- **Old Glade Road**
 - Cul-de-sac
 - Access from SH 26 only
- **Oak Timber Court**
 - Two-Way
 - Right-in / Right-out
- **Impacts**
 - Three commercial properties
- **Cost**
 - Construction = \$1.5 million
 - Right-of-way = \$1.0 million
 - **Total = \$2.5 million**

Single roundabout aligning Bedford and Thompson Terrace

Section 3

Bedford Road – Thompson Terrace



- **Old Glade Road**
 - One-Way Eastbound
 - Access from SH 26 only
 - Could be a Cul-de-sac
- **Oak Timber Court**
 - Two-Way
 - Full Access
- **Impacts**
 - Two commercial Properties
- **Cost**
 - Construction = \$1.6 million
 - Right-of-way = \$150,000
 - **Total = \$1.75 million**

Two roundabouts connecting Bedford and Thompson Terrace

“Dog Bone”
APRIL 16, 2014 PRESENTATION 9 of 27

Section 3

Bedford Road – Thompson Terrace



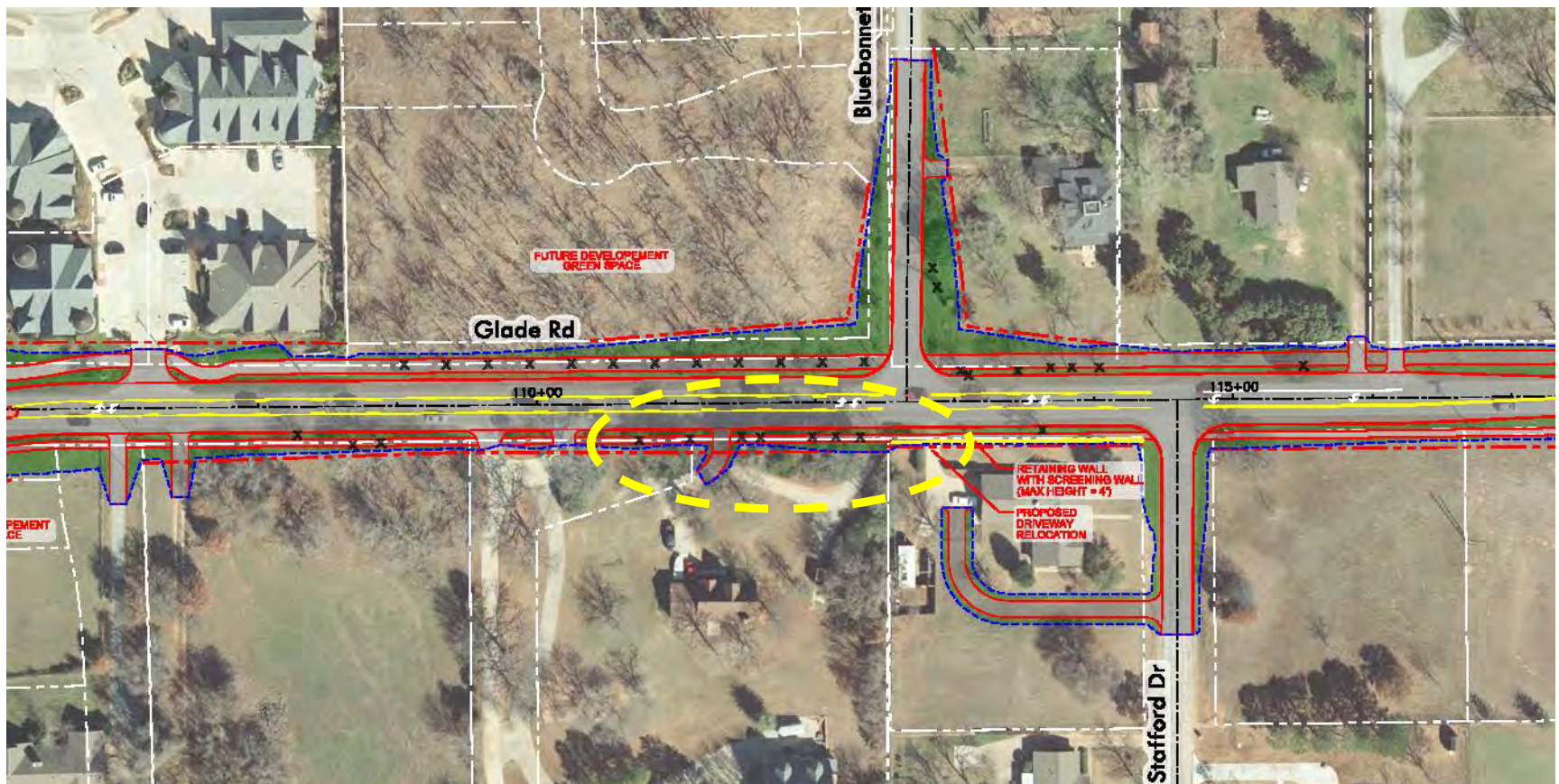
- **Options**
 - Re-align Bedford Road. Stop sign controlled.
 - Single roundabout at existing intersection.
 - Single roundabout aligning Bedford and Thompson Terrace
 - Two roundabouts “Dog Bone” connecting Bedford and Thompson Terrace
- **Economic Development Perspective/Potential – Marty Wieder**
- **Construction Cost - Vary from \$120,000 to \$1.6 million**
- **Right-of-way Cost - Vary from \$50,000 to \$1.0 million**

Section 3

Revisions



- Bluebonnet Driveway**

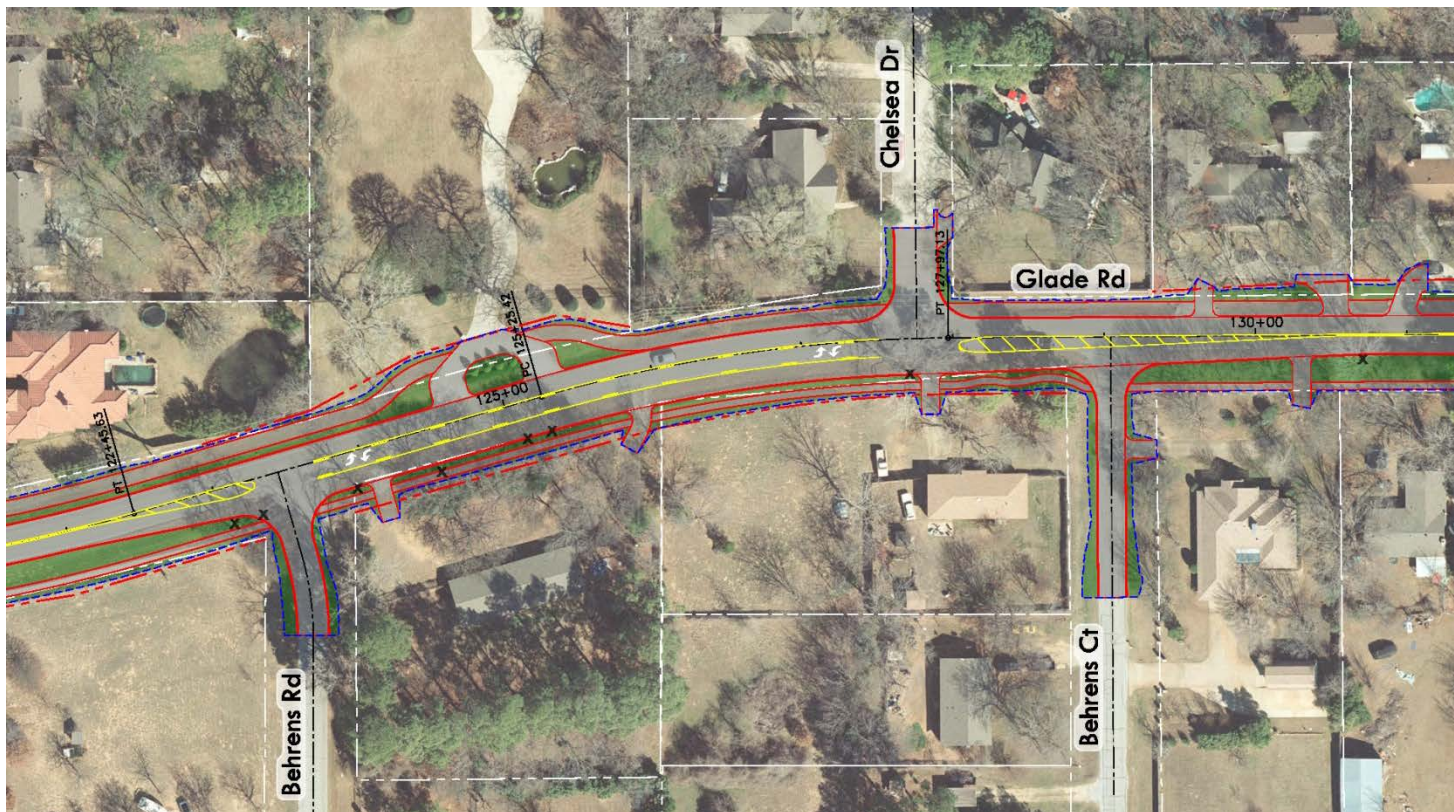


Section 3

Revisions



- Left turn lanes at Behrens Road and Chelsea Drive

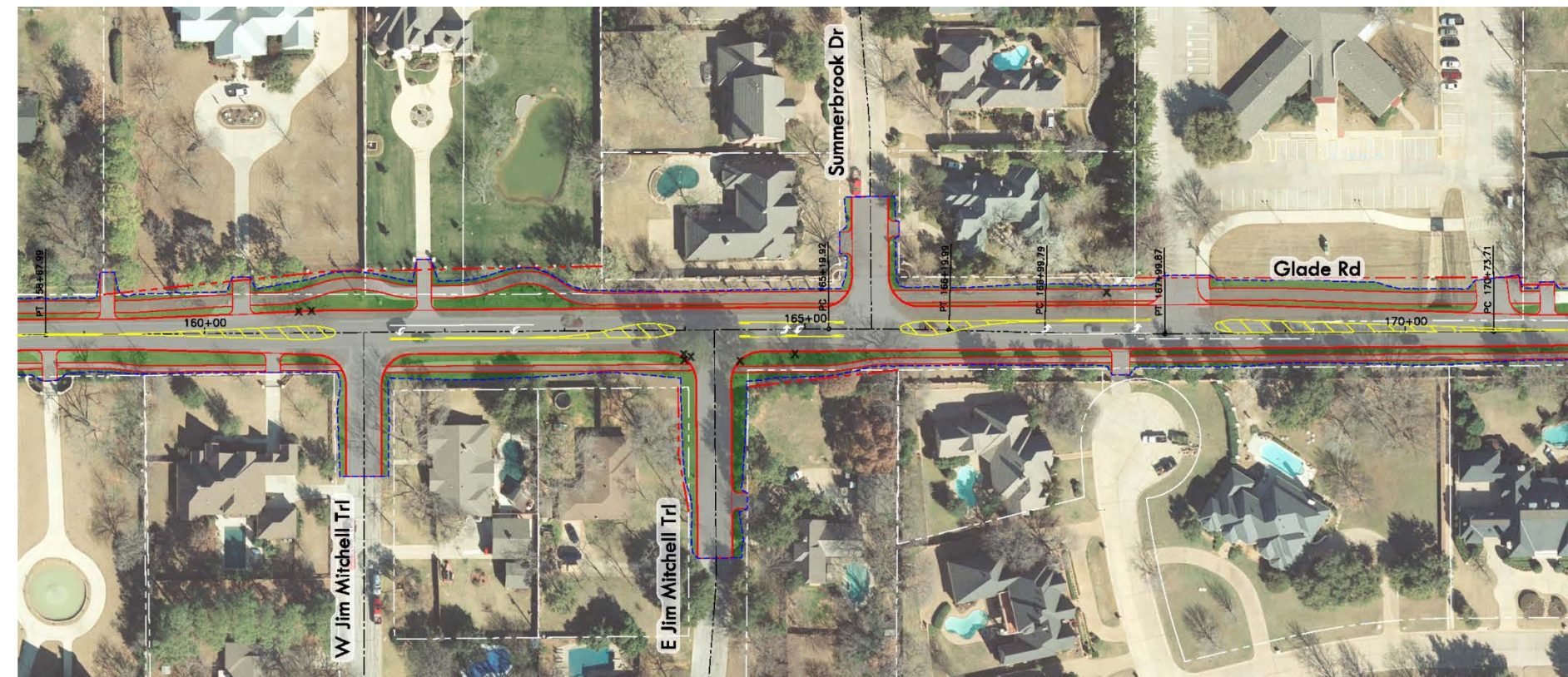


Section 3

Revisions

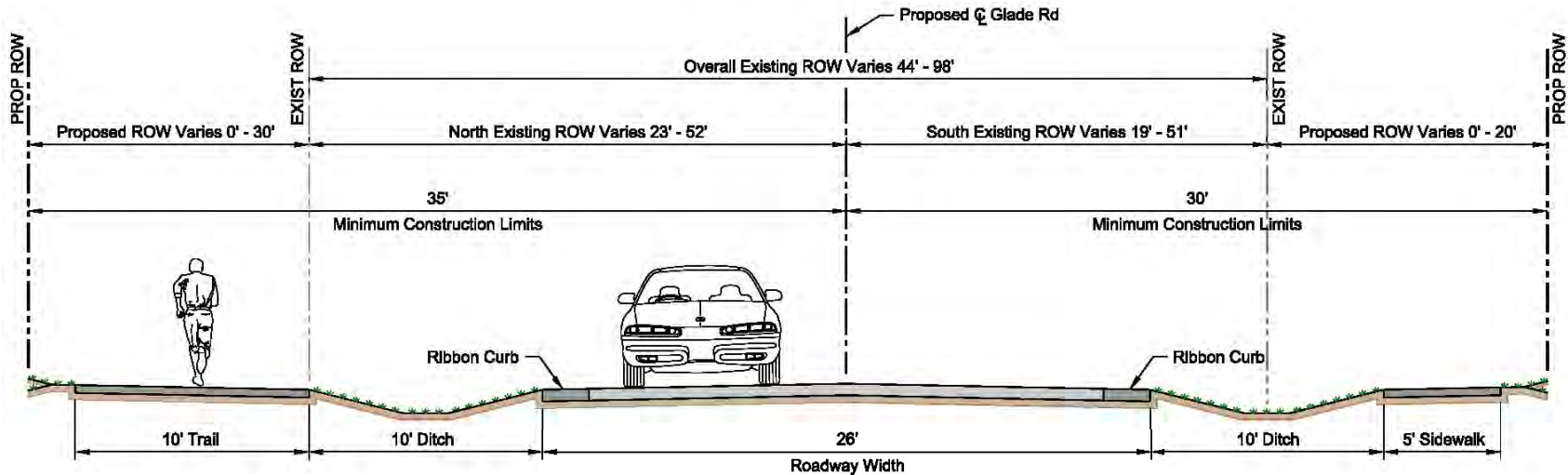


- Left Turn lanes at Jim Mitchell, Summerbrook and Senior Center



Corridor Features

Ribbon Curb with Swale

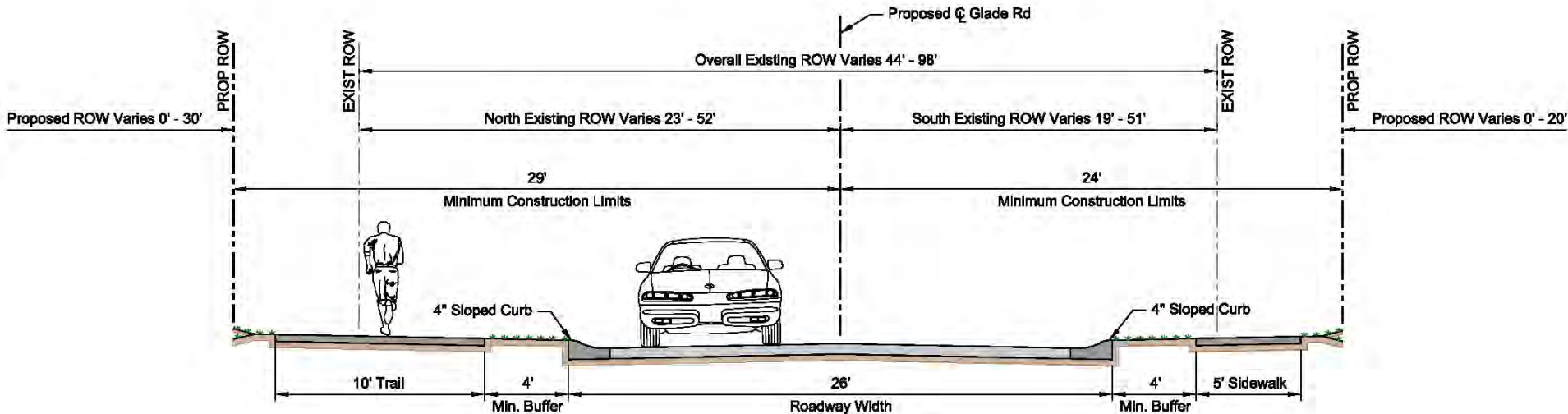


- Rural feel
- Requires the most right-of-way
- Impacts the most trees
- No physical barrier separating vehicular and pedestrian traffic
- Requires 8'-10' between curb and sidewalk
- Requires the most ongoing maintenance
- Allows vehicles to pull over for emergency vehicles



Corridor Features

Sloped Curb

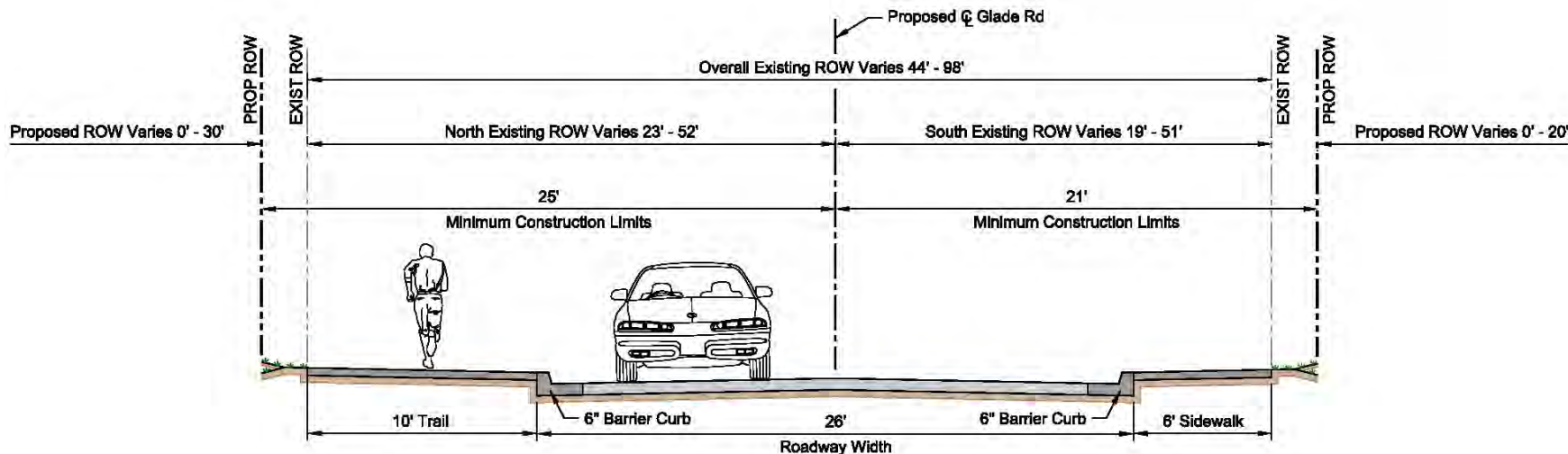


- Semi-rural feel
- Requires less right-of-way
- Less impacts to trees
- Provides some delineation between vehicular and pedestrian traffic
- Recommend 4' buffer between sidewalk and curb
- Allows vehicles to pull over for emergency vehicles



Corridor Features

Barrier Curb



- Urban feel
- Matches other sections of Glade Road
- Requires the least right-of-way
- Impacts the least trees
- Provides a barrier between vehicular and pedestrian traffic
- Sidewalk can be adjacent to the curb when needed
 - To avoid conflicts with trees or minimize right-of-way
- Restricts vehicles from pulling over or emergency vehicles



Corridor Features

Roadway Drainage



	Ribbon Curb	Sloped Curb	Barrier Curb
Right-of-way width	65' minimum	53' minimum	46' minimum
Right-of-way cost	\$ 2,380,000.00	\$ 1,975,000.00	\$ 1,795,000.00
Trees Removed	271	168	106
Drainage	Grate Inlets	Curb Inlets	Curb Inlets
Maintenance	High	Low	Low
Look and Feel	Rural	Semi-Rural	Urban
Sidewalk Separation	10 feet minimum	4 feet minimum	Adjacent

Project Phasing

Constraints



What Controls Project Phasing?

- **Right-of-way Acquisition (Number of Parcels, Difficult Acquisitions)**
- **Utility Coordination and Relocations (Franchise and City Utilities)**
- **Final Design and Bidding**
- **Bid Packages**
- **Bransford Elementary School**
- **SH 26 Construction**
- **Construction Time**
- **City Capacity to Manage Construction**
- **Budgeted Project Funding – Glade Road**
- **City Council Preference**

Project Phasing

Schedule



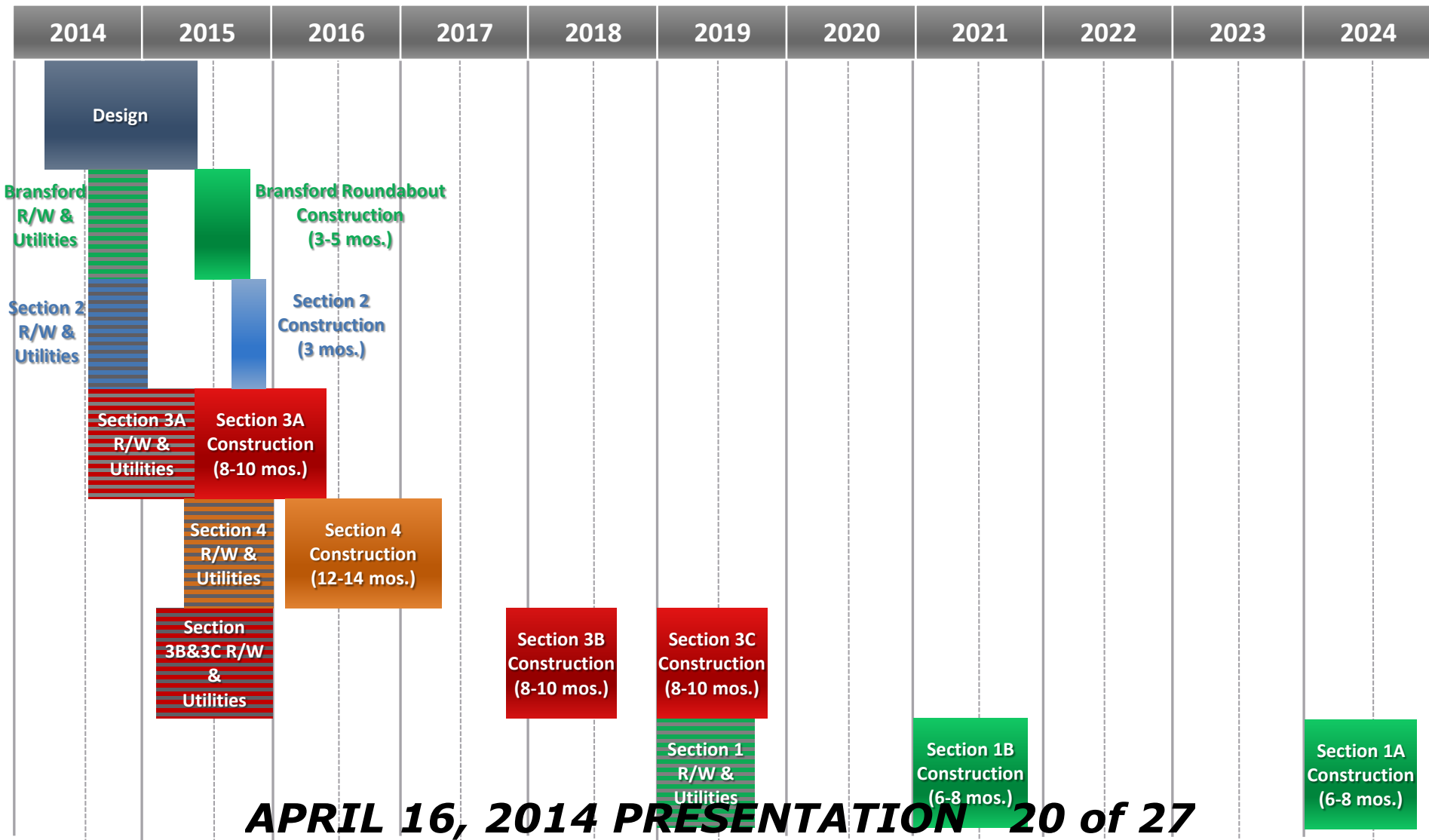
Traffic Operations and Safety

Factoring in Constraints



Project Phasing

Schedule



Glade Road

Recommendation



- Section 1 - Two Lanes with Left Turn Lanes where Warranted
- Bransford Intersection – Roundabout (with considerations for school traffic)
- Section 2 - Pavement Markings and Sidewalk and/or Trail
- Section 3A - Bedford to Bluebonnet - Two Lanes with Continuous Left
- Bedford Intersection – (Re-Align, Roundabout, Connect with Thompson Terrace?)
- Riverwalk Intersection – Roundabout
- Bluebonnet Intersection – Stop Sign on Bluebonnet Approach
- Section 3B & 3C - Bluebonnet to Pool/Jackson - Two Lanes with Left Turn Lanes where Warranted

Glade Road

Recommendation



- Section 4 - Two Lanes with Medians and Left Turn Lanes
 - Add additional westbound lane from Heritage Avenue to Roberts Road
- Martin Parkway Intersection – Stop Sign on Martin Parkway
- Roberts Road Intersection - Stop Sign on Roberts Road/Prestwick Parkway
 - Add additional southbound lane right-turn lane on Roberts Road
- Asphalt Pavement
- Roadway Section/Curb Type?
- 5' Sidewalks on south side and 10' Trail on north side
- Street Lighting at intersections and low level lighting along trail
- Project Schedule:
 - Revised to make Bransford Roundabout, Section 2 and Section 3A priority

Next Steps

- **Public Meeting to Display Final Plan**
- **Prepare Preliminary Engineering Study Report**
- **Design, Right-of-way and Utility Coordination**
- **Construction**

Glade Road

Summary

SECTION	RIGHT-OF-WAY			TREES	CONSTRUCTION		PROFESSIONAL SERVICES	TOTAL
	Number of Parcels	Time to Aquire (Months)	Cost	Removed	Time (Months)	Cost	Soft Cost	Cost
Section 1	18	9	\$ 300,000.00	15	13	\$ 4,737,000.00	\$ 360,000.00	\$ 5,397,000.00
Bransford Roundabout	2	6	\$ 15,000.00	10	5	\$ 1,100,000.00	\$ 98,000.00	\$ 1,213,000.00
Section 2	13	6	\$ 80,000.00	1	3	\$ 215,000.00	\$ 24,000.00	\$ 319,000.00
Bedford Road	1	6	\$ 50,000.00	-	N/A	\$ 115,000.00	\$ 13,500.00	\$ 178,500.00
Section 3A	17	10	\$ 780,000.00	37	12	\$ 2,325,600.00	\$ 245,000.00	\$ 3,350,600.00
Section 3B	16	12	\$ 210,000.00	18	16	\$ 2,964,000.00	\$ 251,500.00	\$ 3,425,500.00
Section 3C	11	*	\$ 220,000.00	8	*	\$ 2,520,000.00	\$ 208,500.00	\$ 2,948,500.00
Section 4	7	9	\$ 190,000.00	17	14	\$ 3,530,250.00	\$ 309,500.00	\$ 4,029,750.00
Total	85	N/A	\$ 1,845,000.00	106	N/A	\$ 17,506,850.00	\$ 1,510,000.00	\$ 20,861,850.00

* Time Included in Section 3B

Project Phasing

Schedule



2014	Design Services	\$	480,000.00
	Right-of-way Services	\$	45,000.00
	Bransford Roundabout Right-of-way	\$	15,000.00
	Section 2 Right-of-way	\$	80,000.00
	Section 3 Right-of-way	\$	830,000.00
		\$	1,450,000.00

2015	Design Services	\$	430,000.00
	Construction Services	\$	140,000.00
	Right-of-way Services	\$	32,500.00
	Section 3 Right-of-way	\$	430,000.00
	Section 4 Right-of-way	\$	190,000.00
	Bransford RAB	\$	1,100,000.00
	Bedford Road	\$	115,000.00
	Section 3A (Bedford Road to Manning Drive)	\$	1,368,000.00
	Section 2 (Shadowood Trail to Bedford Rd)	\$	215,000.00
		\$	4,020,500.00

2016	Construction Services	\$	94,500.00
	Section 3A (Bedford Road to Manning Drive)	\$	957,600.00
	Section 4A (Jackson-Pool Road to Martin Pkwy)	\$	2,766,750.00
	Section 4B (Martin Pkwy to Heritage Ave.)	\$	252,000.00
	Section 3B (Manning Drive to Montclair Street)	\$	4,070,850.00

2017	Construction Services	\$	143,000.00
	Section 4A (Jackson-Pool Road to Martin Pkwy)	\$	511,500.00
	Section 3B (Manning Drive to Montclair Street)	\$	572,000.00

Project Phasing

Schedule



2018	Construction Services	\$	-
	Section 3B (Manning Drive to Montclair Street)	\$	2,392,000.00
		\$	2,392,000.00
2019	Right-of-way Services	\$	15,000.00
	Section 1 Right-of-way	\$	300,000.00
	Section 3C (Montclair Street to Jackson-Pool Rd.)	\$	2,520,000.00
		\$	2,835,000.00
2020	No work	\$	-
		\$	-
2021	Construction Services	\$	130,000.00
	Section 1B (Mill View Dr to Bransford Roundabout)	\$	1,937,000.00
		\$	2,067,000.00
2022	No work	\$	-
		\$	-
2023	No work	\$	-
		\$	-
2024	Construction Services		
	Section 1A (River Bend Dr to Mill View Dr)	\$	2,800,000.00
		\$	2,800,000.00
Total		\$	20,861,850.00

Opinion of Probable Cost

SECTION 1

Section 1A (River Bend Dr to Mill View Dr)	\$ 2,800,000.00
Section 1B (Mill View Dr to Bransford Roundabout)	\$ 1,937,000.00
Section 1 Total	\$ 4,737,000.00

SECTION 2

Bransford RAB	\$ 960,000.00
Bransford Elementary Driveway	\$ 140,000.00
Section 2 (Shadowood Trail to Bedford Rd)	\$ 215,000.00
Section 2 Total	\$ 1,315,000.00

SECTION 3

Bedford Road	\$ 115,000.00
Section 3A (Bedford Road to Manning Drive)	\$ 2,325,600.00
Section 3B (Manning Drive to Montclair Street)	\$ 2,964,000.00
Section 3C (Montclair Street to Jackson-Pool Rd.)	\$ 2,520,000.00
Section 3 Total	\$ 7,924,600.00

SECTION 4

Section 4A (Jackson-Pool Road to Martin Pkwy)	\$ 3,278,250.00
Section 4B (Martin Pkwy to Heritage Ave.)	\$ 252,000.00
Section 4 Total	\$ 3,530,250.00

Construction Total \$ 17,506,850.00

RIGHT-OF-WAY

Section 1 Right-of-way	\$ 300,000.00
Bransford Roundabout	\$ 15,000.00
Section 2 Right-of-way	\$ 80,000.00
Bedford Road	\$ 50,000.00
Section 3A Right-of-way	\$ 780,000.00
Section 3B Right-of-way	\$ 210,000.00
Section 3C Right-of-way	\$ 220,000.00
Section 4 Right-of-way	\$ 190,000.00
Right-of-way Total	\$ 1,845,000.00

SOFT COSTS

Design Services (6%)	\$ 910,000.00
Right-of-way Services (5%)	\$ 92,500.00
Construction Mgmt/Inspection (3%)	\$ 507,500.00
Soft Cost Total	\$ 1,510,000.00

PROJECT COSTS

Soft Cost Total	\$ 1,510,000.00
Right-of-way Total	\$ 1,845,000.00
Construction Total	\$ 17,506,850.00
Project Total	\$ 20,861,850.00



GLADE ROAD PROJECT

JUNE 17, 2014 PRESENTATION





Workshop Agenda

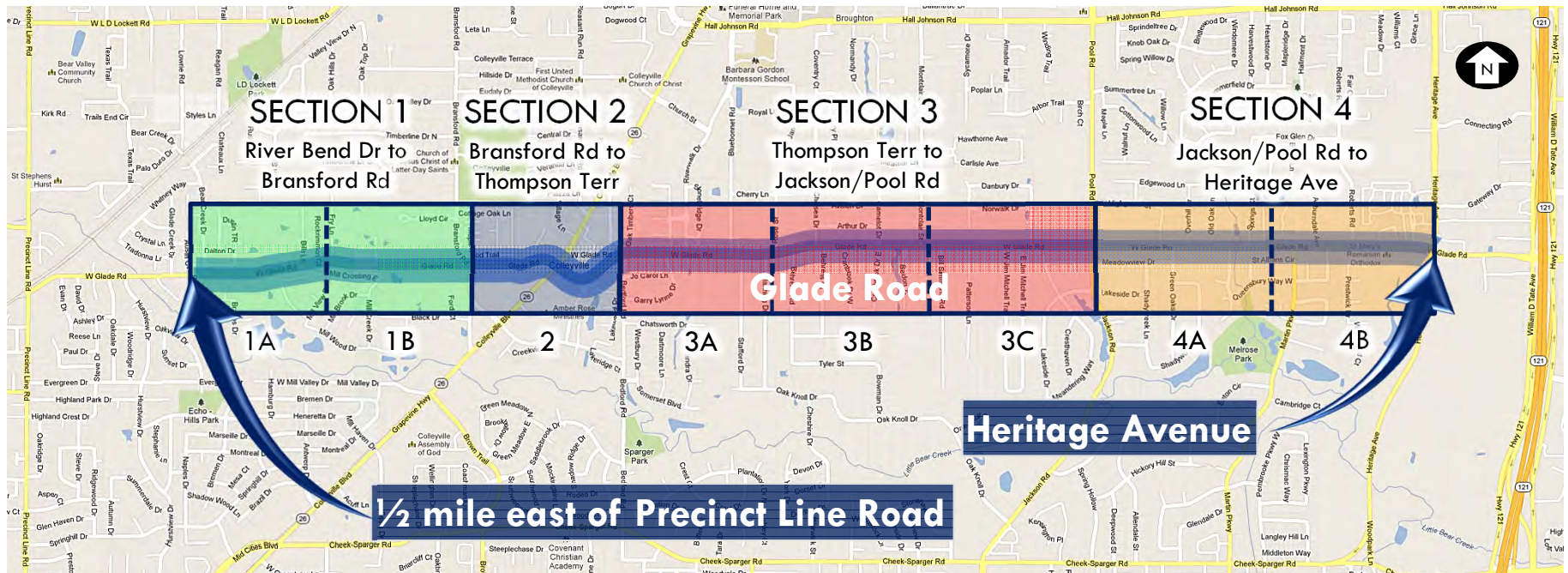
- **Bransford Roundabout**
- **Roadway Section/Curb Type Discussion**
- **Trail and Sidewalk Discussion**
- **Pavement Section - Reclamation vs. Reconstruction**
- **Conceptual Tree Mitigation Program**
- **Summary of Project Phasing**
- **Summary of Recommendation**



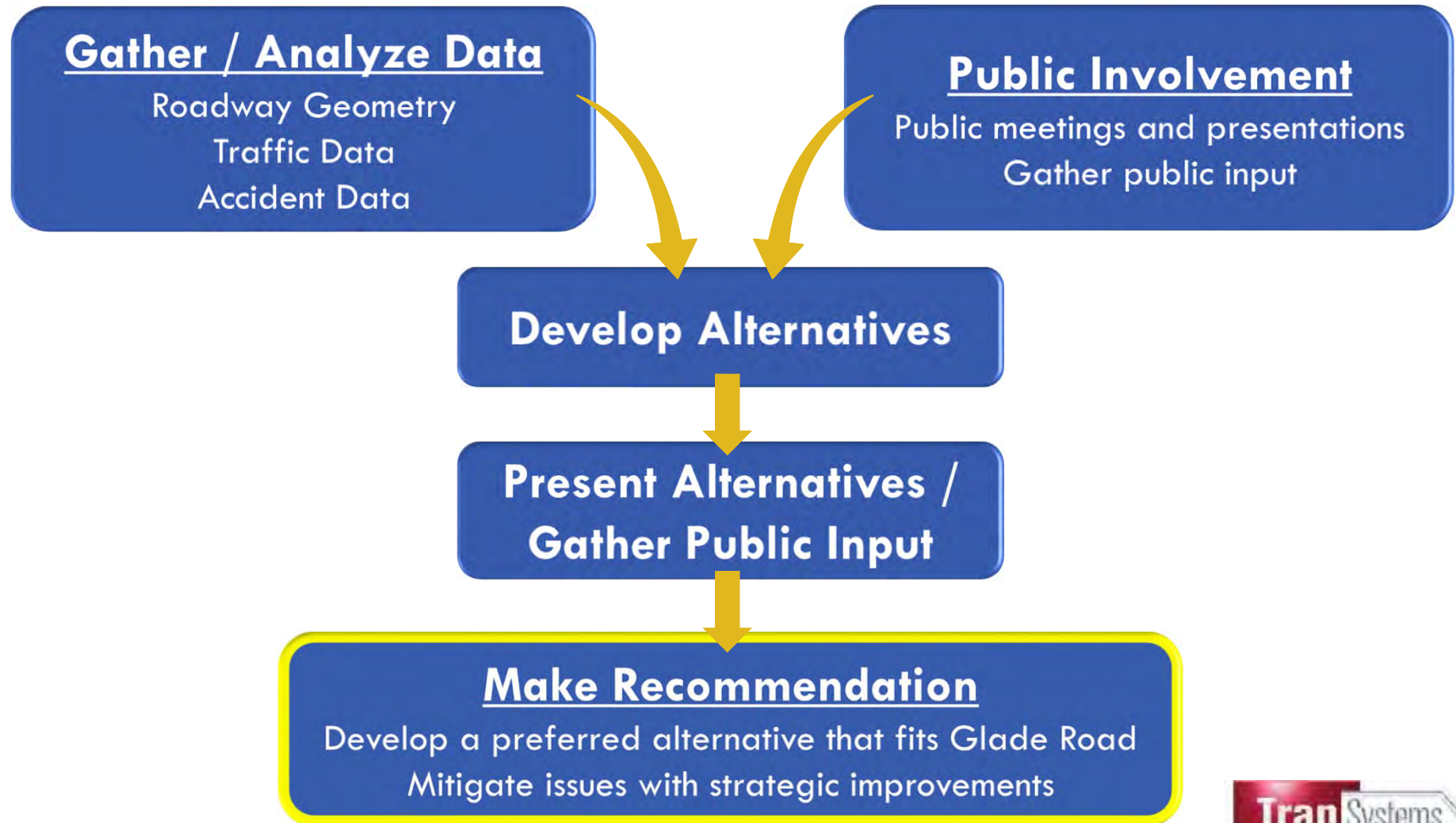


Purpose:

Provide a vision and plan for future improvements to Glade Road.

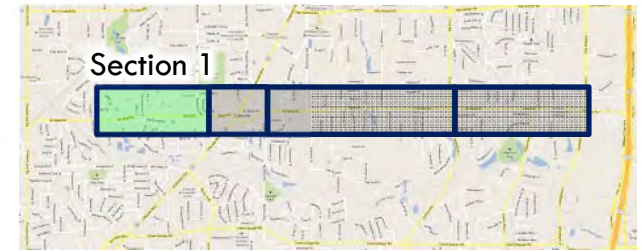


Project Study Approach



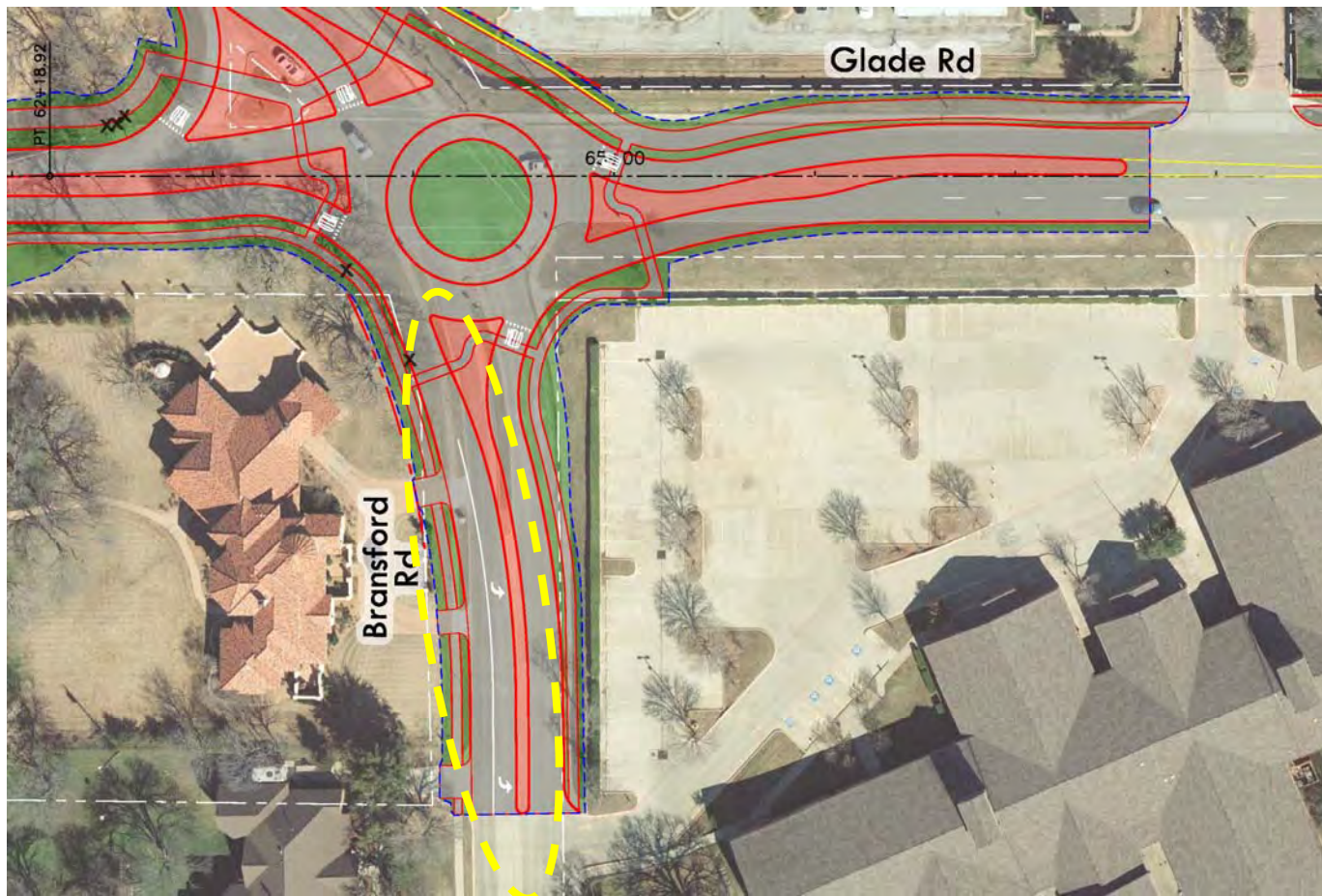
Section 1

Bransford Roundabout



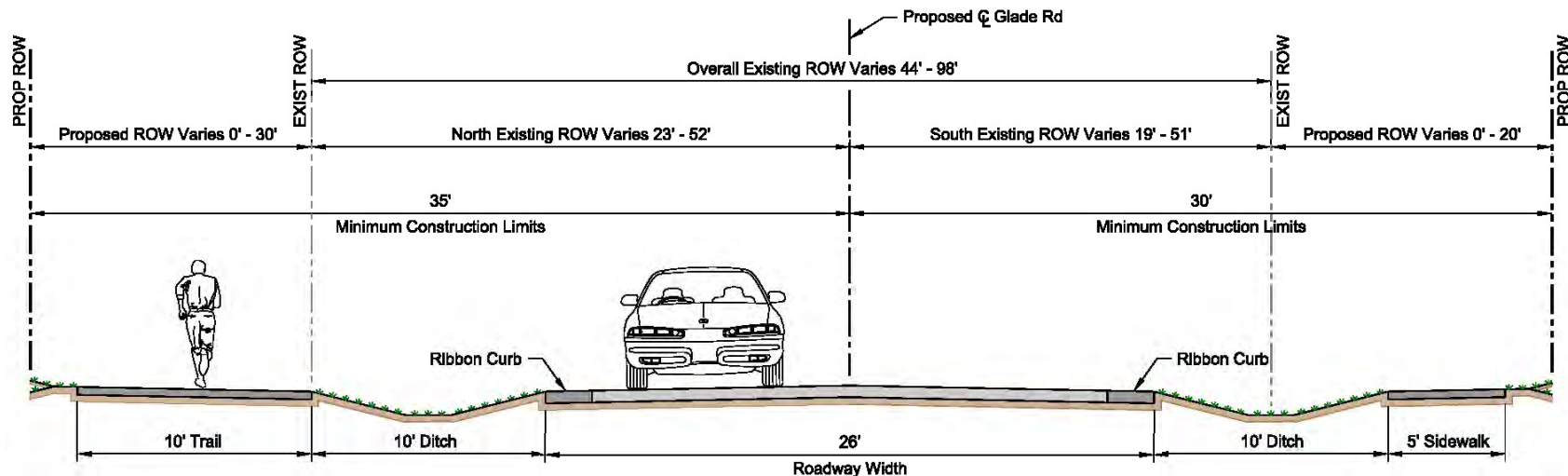
Revised southbound left-turn lane for Bransford Elementary

Existing length = 75' Proposed length = 170'



Roadway Section

Ribbon Curb with Swale

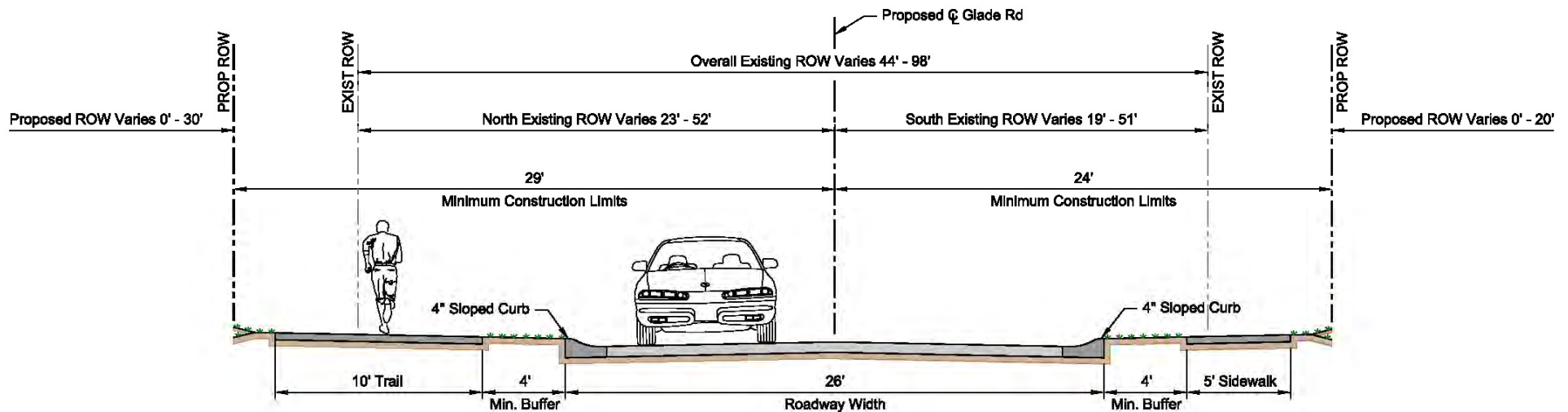


- Rural feel
- Requires the most right-of-way
- Impacts the most trees
- No physical barrier separating vehicular and pedestrian traffic
- Requires 8'-10' between curb and sidewalk
- Requires the most ongoing maintenance
- Allows vehicles to pull over for emergency vehicles



Roadway Section

Sloped Curb

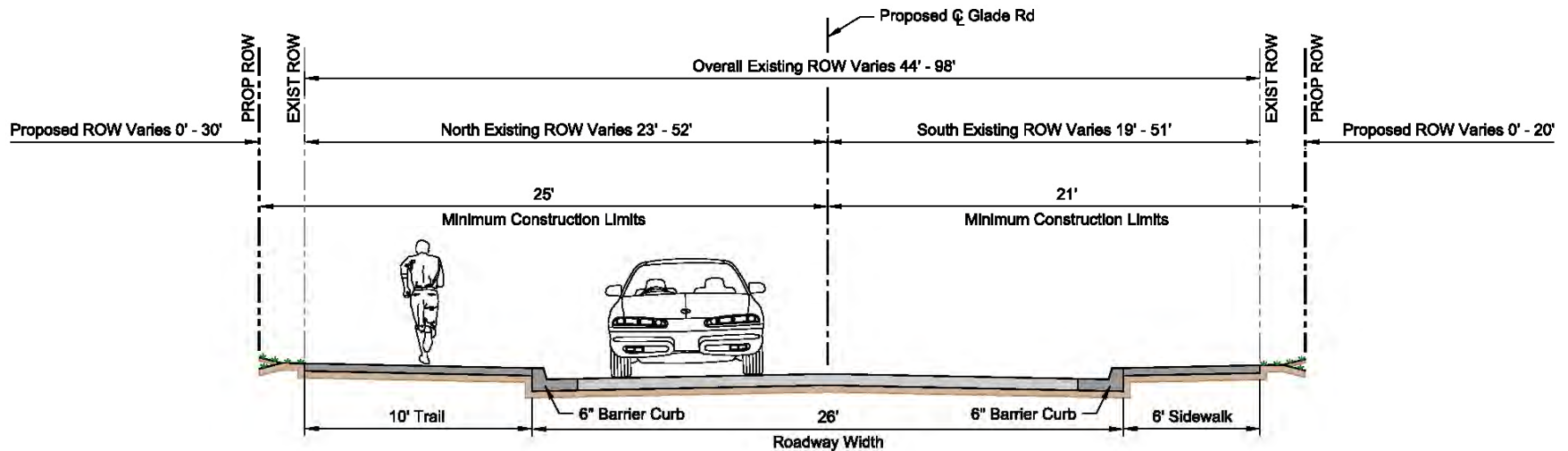


- Semi-rural feel
- Requires less right-of-way
- Less impact to trees
- Provides some delineation between vehicular and pedestrian traffic
- Recommend 4' buffer between sidewalk and curb
- Allows vehicles to pull over for emergency vehicles



Roadway Section

Barrier Curb



- Urban feel
- Matches other sections of Glade Road
- Requires the least right-of-way
- Impacts the least trees
- Provides a barrier between vehicular and pedestrian traffic
- Sidewalk can be adjacent to the curb when needed to avoid conflicts with trees or minimize right-of-way
- Restricts vehicles from pulling over for emergency vehicles





Roadway Section Renderings

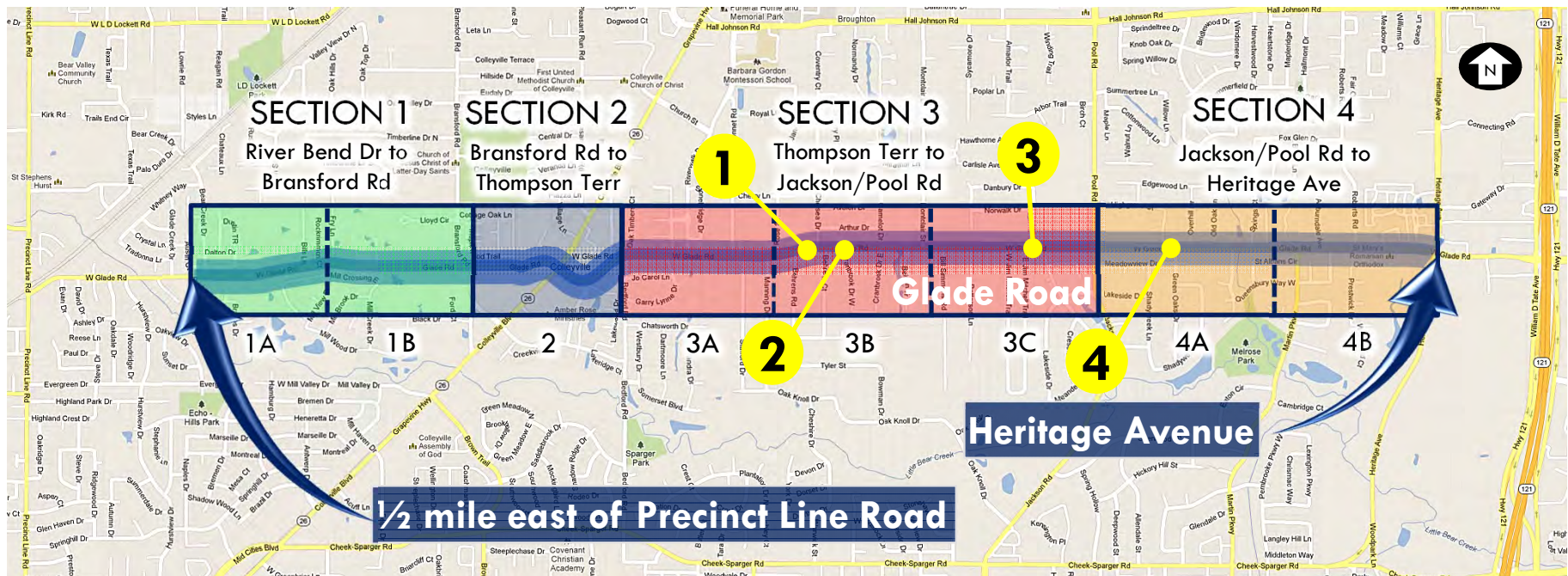


1 Behrens Court

3 E. Jim Mitchell Trail

2 Chelsea Park Area

4 Overhill Drive





Roadway Section

Location 1 – Behrens Court



Ribbon Curb with Swale





Roadway Section

Location 1 – Behrens Court



Sloped Curb





Roadway Section

Location 1 – Behrens Court



Barrier Curb





Roadway Section

Location 1 – Behrens Court

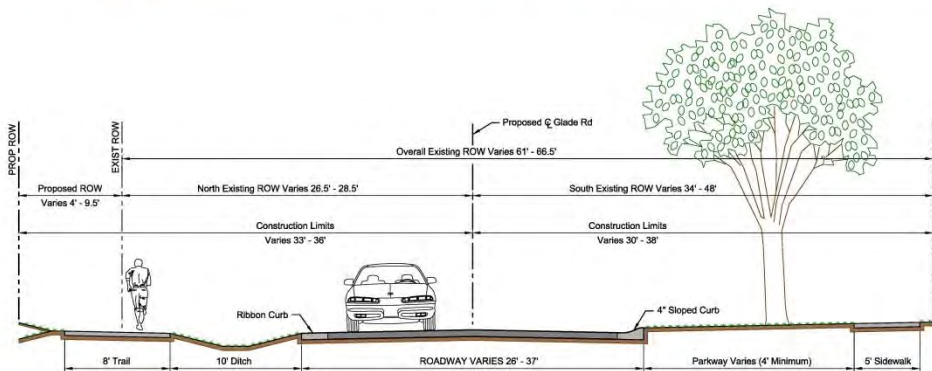
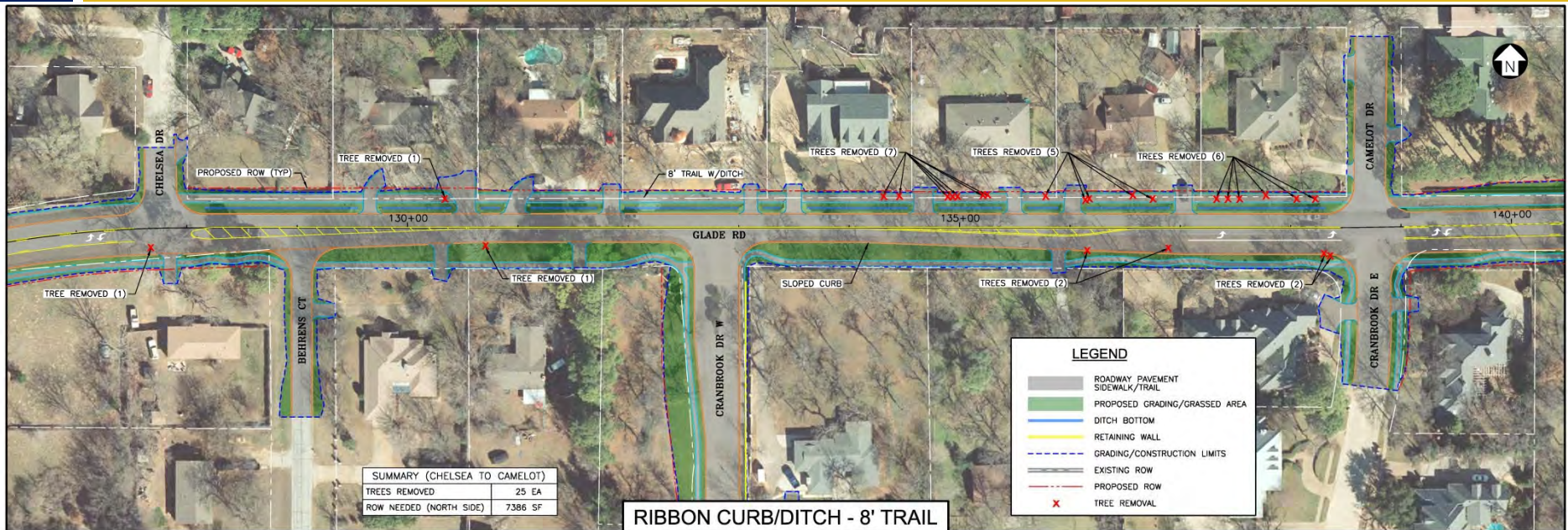


Barrier Curb with Sidewalk Adjacent



Roadway Section

Location 2 – Chelsea Park Area



3D RENDERING
STA 134+50
LOOKING EAST

Roadway Section

Location 2 – Chelsea Park Area



North - Sloped Curb
South - Ribbon Curb Swale







Roadway Section

Location 2 – Chelsea Park Area



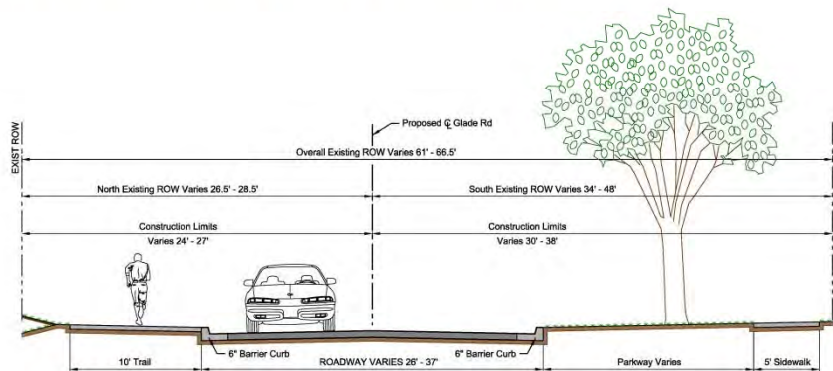
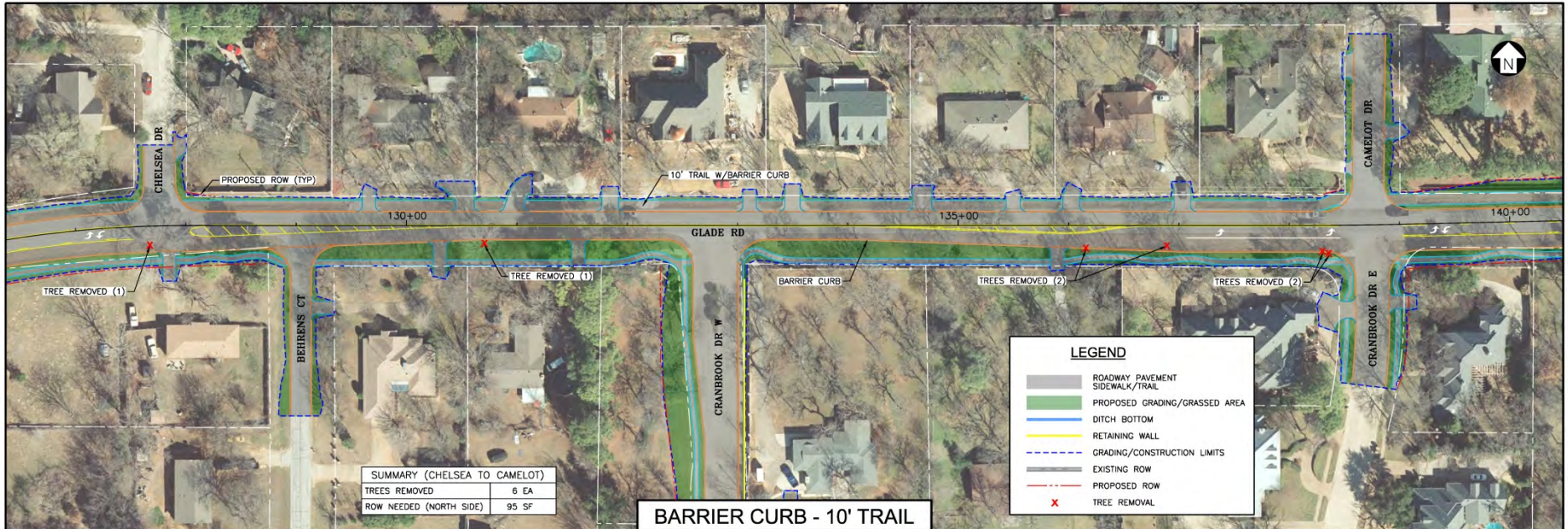
Sloped Curb





Roadway Section

Location 2 – Chelsea Park Area



3D RENDERING
STA 134+50
LOOKING EAST

Roadway Section

Location 2 – Chelsea Park Area

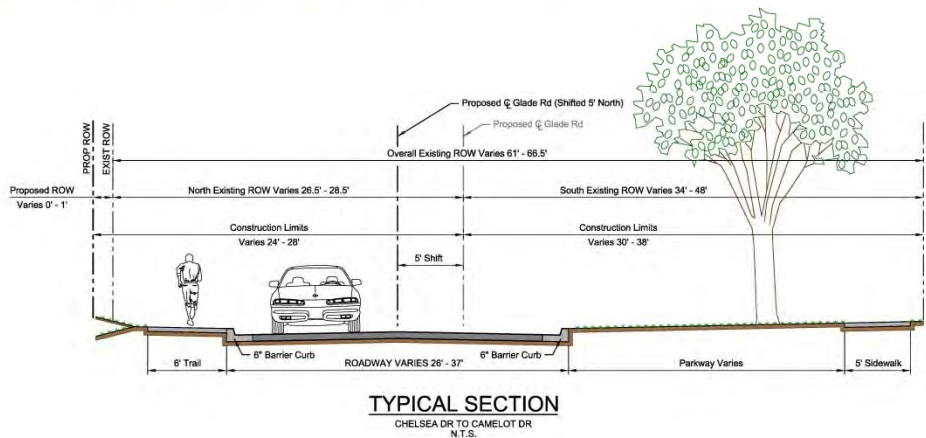
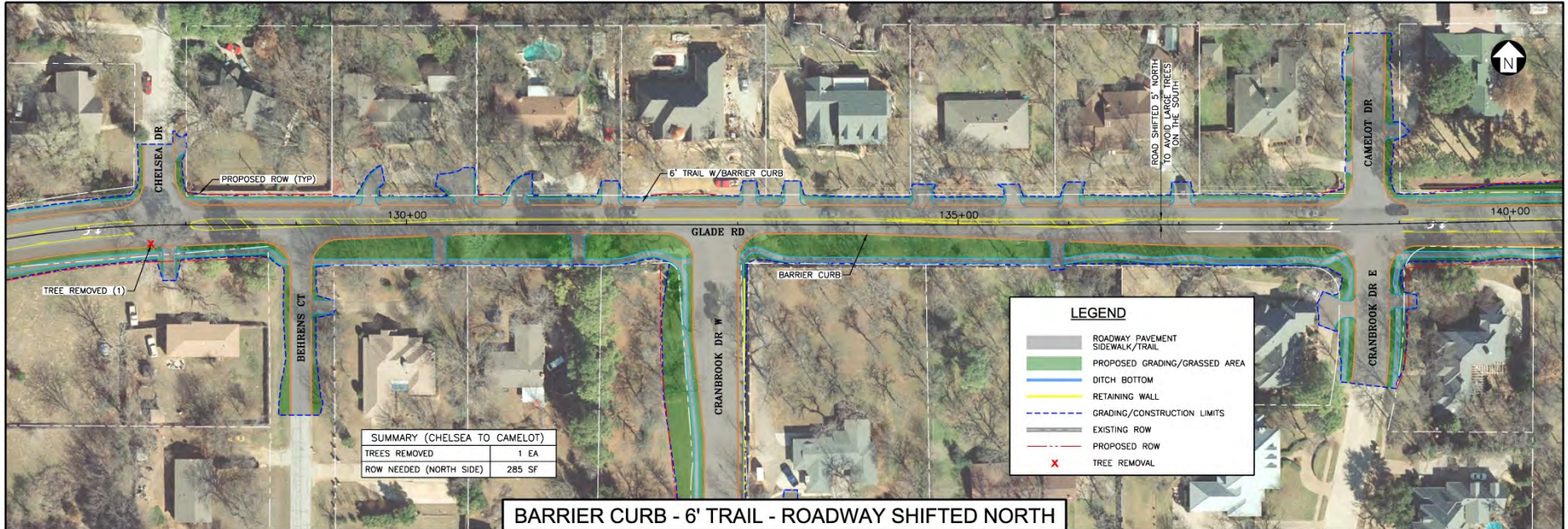


Barrier Curb



Roadway Section

Location 2 – Chelsea Park Area



3D RENDERING
STA 134+50
LOOKING EAST



Roadway Section

Location 3 – E. Jim Mitchell Trail



Ribbon Curb with Swale





Roadway Section

Location 3 – E. Jim Mitchell Trail



Sloped Curb





Roadway Section

Location 3 – E. Jim Mitchell Trail



Barrier Curb





Roadway Section

Location 4 – Overhill Drive



North - Ribbon Curb with Swale
South – Barrier Curb





Roadway Section

Location 4 – Overhill Drive



Sloped Curb





Roadway Section

Location 4 – Overhill Drive



Barrier Curb





Sidewalk/Trail Options



5' sidewalk on south side and 10' trail on north side

- Recommended for Bransford to Manning and Jackson/Pool to Heritage using existing rights-of-way

5' sidewalk on both north and south side

- River Bend Dr. to Bransford Rd. and Manning Dr. to Jackson/Pool Rd.
- Total project savings \$505,000 in construction and right-of-way costs
- 7 less parcels
- 17 trees saved

8' enhanced sidewalk south side only

- River Bend Dr. to Bransford Rd. and Manning Dr. to Jackson/Pool Rd.
- Total project savings \$755,000 in construction and right-of-way costs
- 16 less parcels
- 26 Trees Saved





Sidewalk/Trail

Location 1 – Behrens Court



10' trail / 5' sidewalk





Sidewalk/Trail

Location 1 – Behrens Court



5' sidewalk both sides





Sidewalk/Trail

Location 1 – Behrens Court



8' enhanced sidewalk south side





Sidewalk/Trail

Location 2 – Chelsea Park Area



10' trail / 5' sidewalk





Sidewalk/Trail

Location 2 – Chelsea Park Area



5' sidewalk both sides





Sidewalk/Trail

Location 2 – Chelsea Park Area



8' enhanced sidewalk south side





Sidewalk/Trail

Location 3 – E. Jim Mitchell Trail



5' sidewalk / 10' trail





Sidewalk/Trail

Location 3 – E. Jim Mitchell Trail



5' sidewalk both sides





Sidewalk/Trail

Location 3 – E. Jim Mitchell Trail



8' enhanced sidewalk south side



Pavement Section

Reclamation vs. Reconstruction



Typical Existing Pavement Section

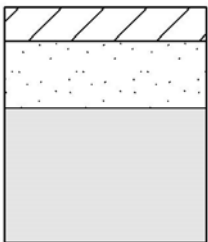


2" Surface Course

Compacted Subgrade

- Evolved over time (not designed)
- 3 to 5 year life
- Poor riding surface
- Requires constant maintenance

Reclamation Pavement Section



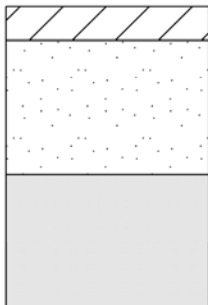
2" Asphalt Surface Course

4" Asphalt Base Course

8" Stabilized Subgrade

- 15 year design life
- Reduced road noise
- Faster construction
- Reduced complexity in construction phasing
- Minor maintenance can be performed by City crews

Engineered Pavement Section



2" Asphalt Surface Course

7"-9" Asphalt Base Course

8" Stabilized Subgrade

- 30 plus year design life
- Reduced road noise
- Reduced complexity in construction phasing
- Minor maintenance can be performed by City crews



Pavement Section

Reclamation vs. Reconstruction



Possible Areas for Pavement Reclamation

- Mill Creek to Bransford Road (Section 1B)
- Manning to Jackson/Pool (Sections 3B and 3C)
- Jackson/Pool to Strathmore Terrace (Section 4)

Things to consider with Pavement Reclamation

- Limits geometric modifications, elevation stays the same
- Could be performed in existing rights-of-way
- Addressing narrow road widths
 - Some grading and drainage improvements will be required
 - Possibility of pavement failing along existing edge of pavement
- Left-turn lanes
 - Will require additional rights-of-way, grading, drainage improvements and a full depth pavement
- Consider completing sidewalk on south side of the road
 - Will require additional rights-of-way
- Addition of curb will require storm drain improvements





Pavement Section

Reclamation vs. Reconstruction



Things to consider with Pavement Reconstruction

- Address safety and visibility issues
- Bar ditches replaced with engineered drainage system
- Safer lane widths
- Improve roadside safety (shoulder conditions)
- Can add left-turn lanes where warranted for safety and mobility
- Pedestrian elements can be added as desired





Pavement Section

Reclamation vs. Reconstruction



Cost Comparison*

Riverbend to Bransford Road (Section 1)

- Reconstruction - \$4,977,000
- Reclamation - \$437,000

Manning to Jackson/Pool (Sections 3B and 3C)

- Reconstruction - \$5,926,000
- Reclamation - \$1,266,000

Jackson/Pool to Strathmore Terrace (Section 4)

- Reconstruction - \$3,390,000
- Reclamation - \$732,000

* Estimated costs include preliminary rights-of-way and construction costs





Tree Mitigation



Conceptual Program Details

- Funds set aside for tree mitigation along Glade
- Property owners can select from City-approved trees
 - Type of tree can be to specific certain sections of Glade Road
- Property owners that lose trees have priority in selection
- Limit number of trees per property owner
- Provide criteria as to where they can planted
- Installed by a City contractor (contract separate from Glade Road)
- Warrantied by the contractor directly with the property owner
- Property owners may upgrade tree size at their own cost





Tree Mitigation



Conceptual Program Benefits continued...

- Gives the property owner input
 - Type of tree
 - Number of trees
 - Location of tree
- Keeps trees out of City right-of-way
- Keeps trees out of overhead power lines
- Does not require installation or maintenance by City Staff
- Warrantied by the contractor not the City
- Trees can be replaced at a ratio of 2:1, 3:1 or higher





Project Phasing

Constraints



What Controls Project Phasing?

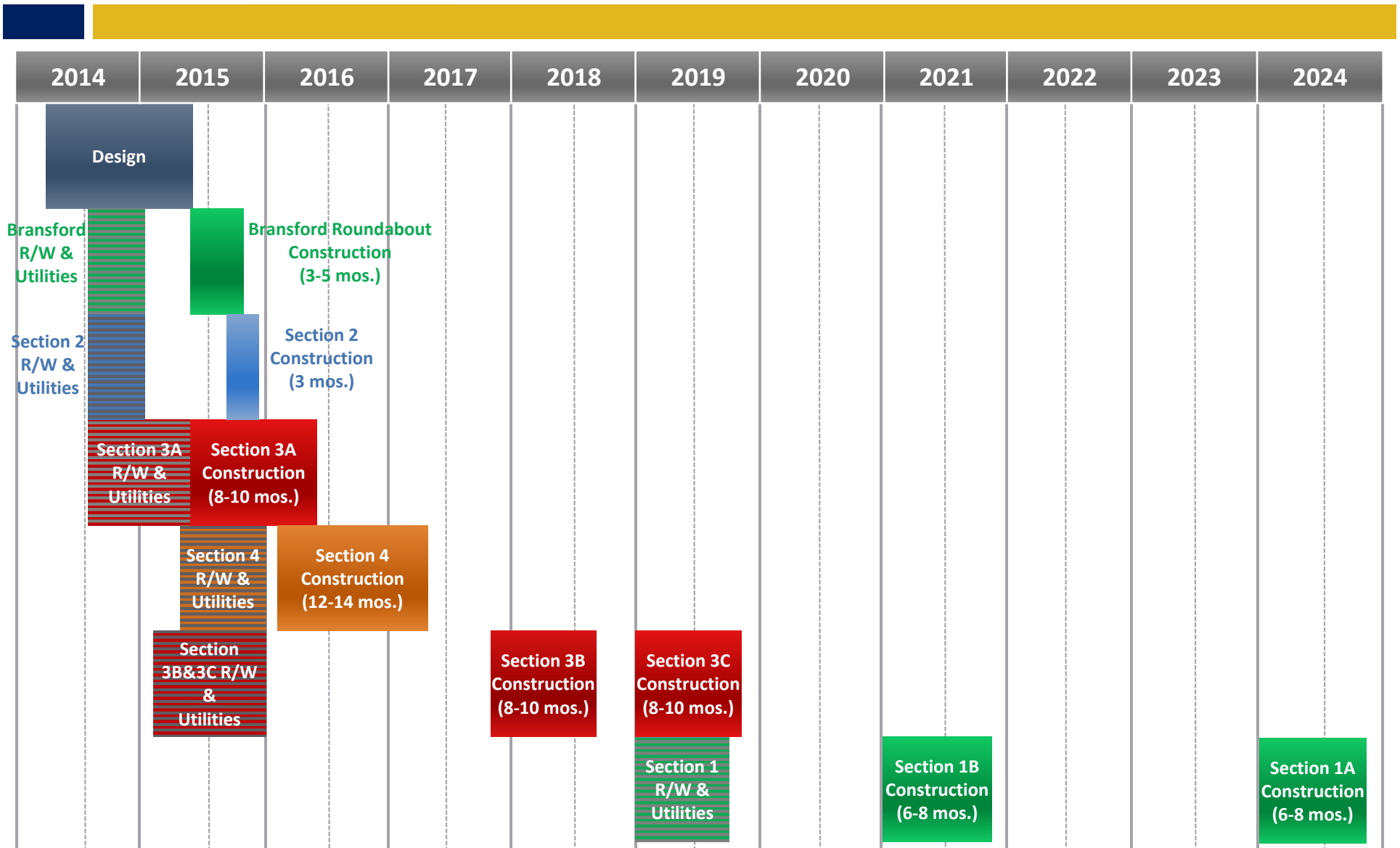
- Right-of-way Acquisition
- Utility Coordination and Relocations (Franchise and City Utilities)
- Final Design and Bidding
- Bransford Elementary School
- SH 26 Construction
- Construction Time
- Budgeted Project Funding – Glade Road
- City Council Preference





Project Phasing

Schedule





Glade Road

Recommendation



Section 1 (River Bend Dr. to Bransford Rd.)

- Two lanes with left turn lanes where warranted
- Barrier curb

Options

- Sloped curb
- Ribbon curb with engineered swale in select locations
- 10' trail on the north side and 5' sidewalk on the south side
- 5' sidewalk on the north and south side
- 8' enhanced sidewalk on the south side
- Pavement reclamation





Glade Road

Recommendation



Section 2 (Bransford Rd. to Thompson Terrace)

- Pavement markings
- Bransford intersection – roundabout with left-turn lane for school traffic

Options

- 10' trail on the north side and 5' sidewalk on the south side
- 5' sidewalk on the north and south side
- 8' enhanced sidewalk on the south side





Glade Road

Recommendation



Section 3A (Thompson Terrace to Manning Dr.)

- Bedford to Bluebonnet - two lanes with continuous left-turn lane
- Bedford intersection – re-align to improve sight distance
- Riverwalk intersection – roundabout
- Bluebonnet intersection – lower road and keep stop sign on Bluebonnet approach
- Barrier curb

Options

- Sloped curb
- 10' trail on the north side and 5' sidewalk on the south side
- 5' sidewalk on the north and south side
- 8' enhanced sidewalk on the south side





Glade Road

Recommendation



Section 3B & 3C (Manning Dr. to Jackson/Pool Rd.)

- Two lanes with left-turn lanes where warranted
- Barrier curb

Options

- Sloped curb
- Ribbon curb with engineered swale
- 10' trail on the north side and 5' sidewalk on the south side
- 5' sidewalk on the north and south side
- 8' enhanced sidewalk on the south side
- Pavement reclamation





Glade Road

Recommendation



Section 4 (Jackson/Pool Rd. to Heritage Ave.)

- Two lanes with low-profile medians and left-turn lanes, with barrier curb
- Add additional westbound lane from Heritage Avenue to Roberts Road
- Martin Parkway intersection – keep stop sign on Martin Parkway
- Roberts Road intersection – keep stop sign on Roberts Road/Prestwick Drive
- Add additional southbound right-turn lane on Roberts Road

Options

- Two lanes with left-turn lanes where warranted (without low-profile medians)
- Sloped curb
- Ribbon curb with engineered swale in select locations (north side only)
- 10' trail on the north side and 5' sidewalk on the south side
- 5' sidewalk on the north and south side
- 8' enhanced sidewalk on the south side
- Pavement reclamation





Glade Road

Recommendation



Other items

- Street Lighting
- Tree Mitigation
- Project Schedule: Bransford roundabout, Section 2 and Section 3A are priority





Next Steps

- **Final Recommendations**
- **Public Meeting to Share Final Plan**
- **Design, Right-of-way and Utility Coordination**
- **Construction**



Exhibit Legend

LEGEND

	ROADWAY PAVEMENT SIDEWALK/TRAIL
	PAVED MEDIAN
	PROPOSED GRADING/GRASSED AREA
	DITCH BOTTOM
	RETAINING WALL
	GRADING/CONSTRUCTION LIMITS
	EXISTING ROW
	PROPOSED ROW
	TREE REMOVAL

Glade Road

**Pre Council Meeting
June 2, 2015**

Overview



- Project history
- Discussion of Phase I
- What is included in the scope of the project
- Status of the design work
- Major milestones if the project is pursued
- Staff is seeking City Council direction

Project History



October 5, 2011 – Pre Council presentation on the Glade Road and Bluebonnet Road intersection

May 23, 2013 – Initial Public Input Meeting

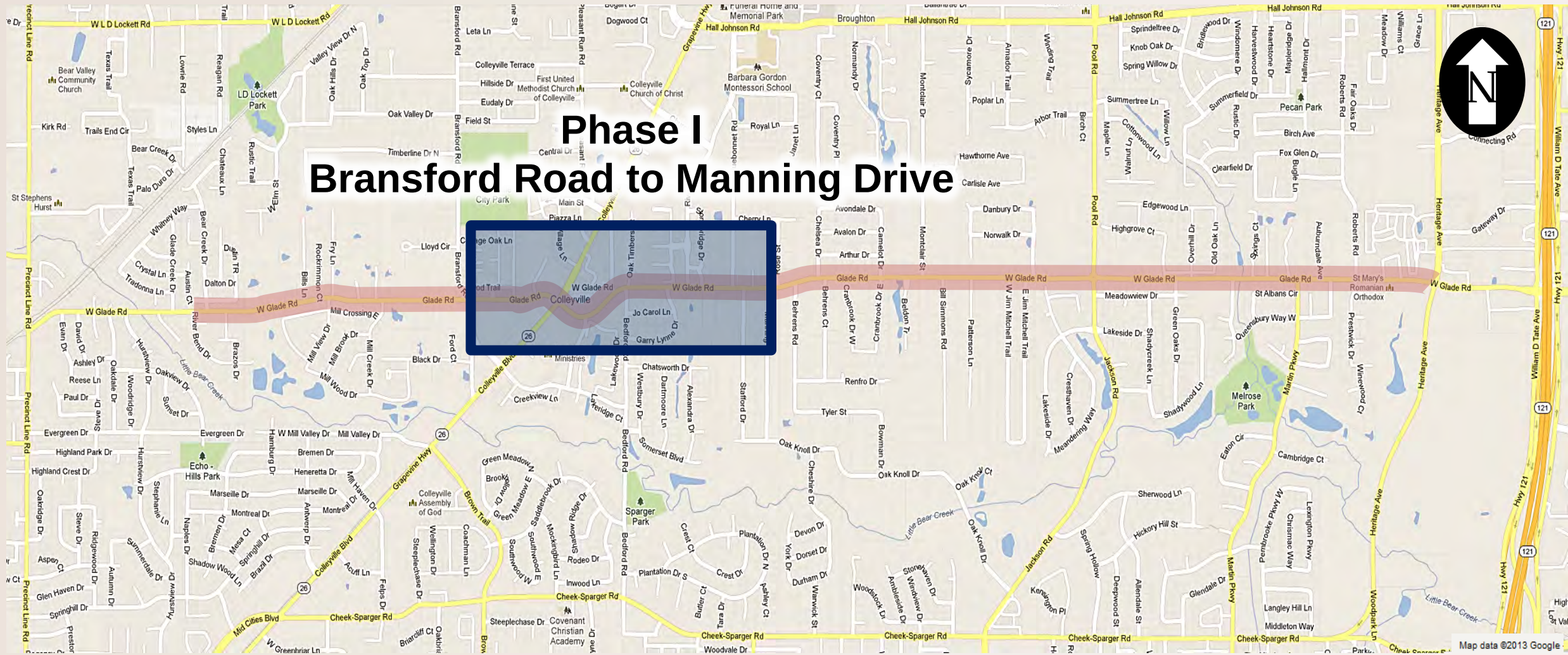
November 18, 2013 – Second Public Input Meeting (concept designs presented)

June 30, 2014 – Worksession to discuss the project. City Council provided direction to proceed with the final design of the section between Bransford Road and Manning Drive

July 15, 2014 – Approval of a final design contract for the section between Bransford Road and Manning Drive

October 21, 2014 – Pre Council discussion and project design placed on hold

Phase I Includes

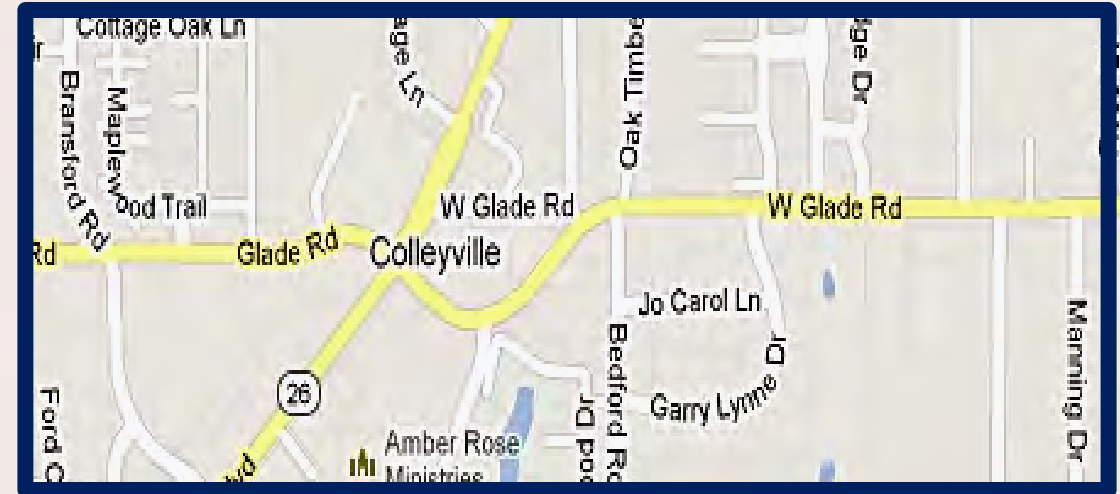


Phase I Includes



The section of Glade Road from Bransford Road to Manning Drive, including:

- Roundabout at Bransford Road Intersection
- Realignment of Bedford Road Intersection
- Roundabout at Riverwalk Drive Intersection
- Address the undersized box culverts under Glade Road at Riverwalk Drive (drainage issue)
- Lowering the road at Bluebonnet Drive to allow for improved sight distance and the removal of stop signs along Glade Road



Phase I Status



The status of this phase of the project is:

- Placed on hold per City Council direction on October 21, 2014
- Construction plans had been initiated (25% complete)
- Right-of-way plans had been initiated (70% complete)
- Utility Coordination
 - Project notices sent to franchise utilities in August 2014

Phase I Milestones



If the project moves forward the next major milestones for Phase I include:

- Authorization of the consultant to proceed with the design
- Development of the 60% design submittal
- Completion of the right-of-way plans
- Development of the 90% design submittal
- Franchise utility relocation
- Completion of the contract documents and plans
- Bidding process and bid award
- Construction

City Council Direction



Staff is seeking direction from the City Council as to whether or not to proceed with this phase of the Glade Road Project.

Questions and Discussion