Skillman Street Corridor Study Live Oak to Abrams

Public Meeting Presentation November 7, 2024

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City of Dallas, Department of Transportation and Public Works



Presentation Outline

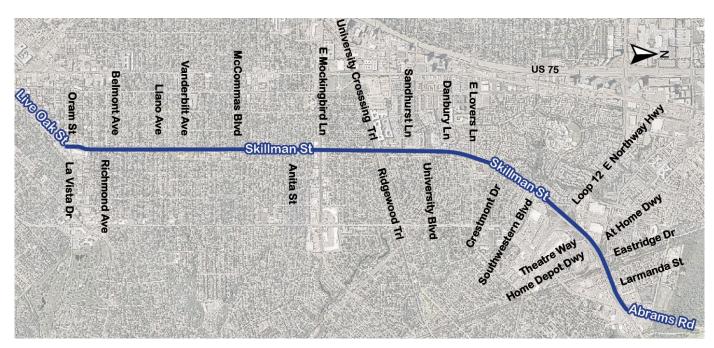
- Study Location & Objectives
- Existing Conditions
- Potential Improvements
- Recommendations
- Implementation of Improvements
- Next Steps





Study Locations & Objectives

- Evaluate Existing Conditions and Speeding Issues
- Evaluate Crash Reports
- Traffic Operations Analysis
- Pedestrian and Bike Accommodations
- Develop Mitigations for Safety Challenges
- Recommendations for Operational Improvements





Purpose of Study

Purpose of Skillman St. Study:

To determine recommended strategies and improvements to enhance <u>safety and mobility</u> for all users of the corridor and address resident concerns.

Map of Project Limits for Abrams Road and Skillman Street Corridor Studies



A Public Engagement Survey was previously hosted in <u>May</u> and <u>September</u> 2024 for the following concurrent studies:

- Skillman St (Live Oak St to Abrams Rd)
- Abrams Rd (Richmond Ave to Northwest Hwy)



Community Engagement Survey – May 2024

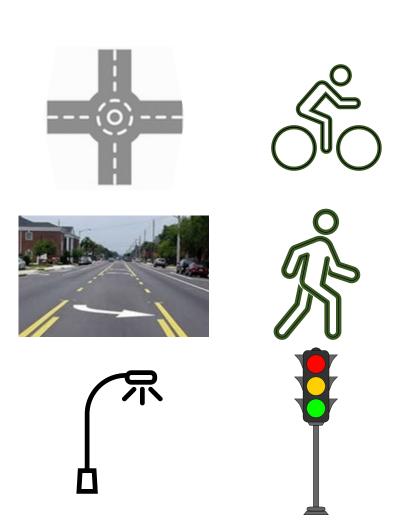
- A survey for the Abrams and Skillman corridor studies was open to the public from May 3 to May 30, 2024.
- 210 respondents answered the question "What improvements would you like to see to Abrams Road within the study limits?"
 - The six improvements identified in the greatest number of responses include:
 - Improve/add sidewalks 78 responses
 - Implement traffic calming measures 55 responses
 - Improve/add crosswalks 49 responses
 - Add traffic signals 47 responses
 - Add bike lanes / a shared-use path 45 responses
 - Add center turn lane or more left-turn lanes 40 responses
- A more detailed version of the survey results is on the project webpage.



Public Engagement Summary from September 2024

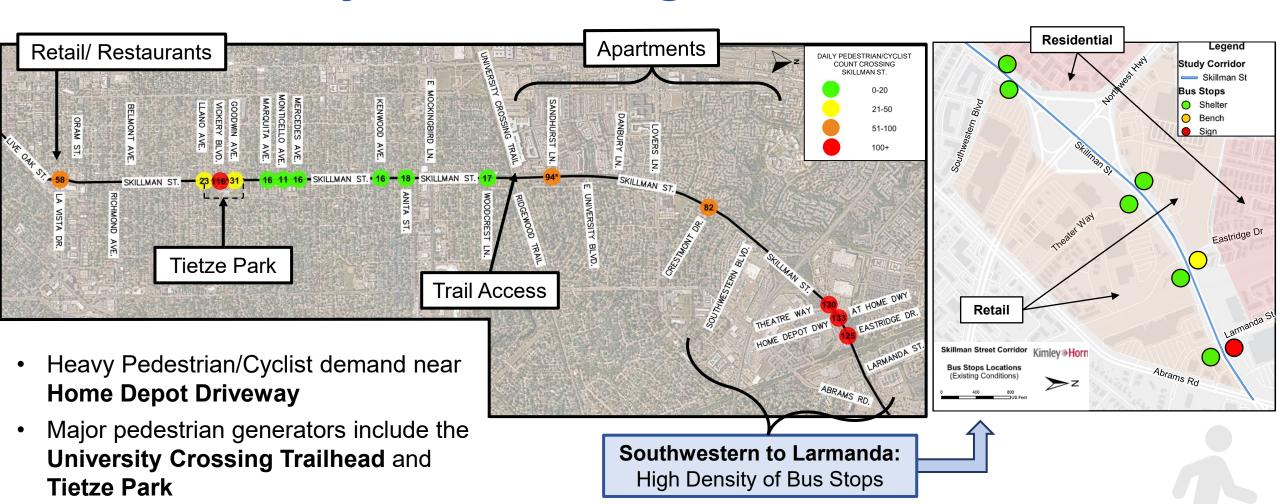
Skillman Public Meeting Feedback

- ✓ Interest in a roundabout at Live Oak at Skillman
- ✓ Strong desire for sidewalk improvements, bike lanes/shared use paths, crosswalks, and traffic calming
- ✓ Desire for a road-diet and speed calming around Tietze Park or the entire section south of Mockingbird
- ✓ Desire to enhance safety lighting
- ✓ Desire for improved infrastructure



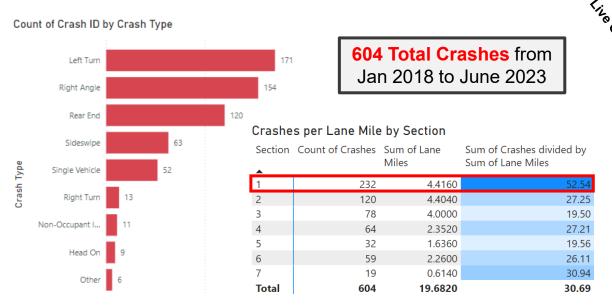


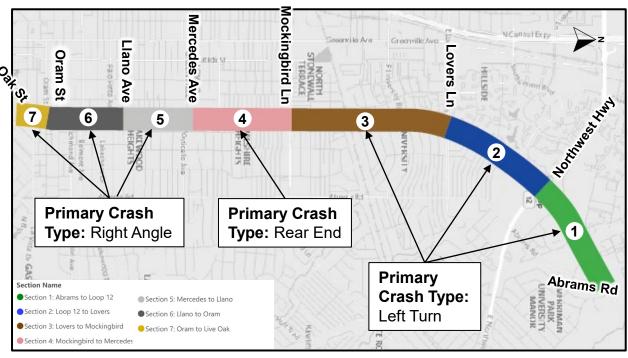
Pedestrian/Cyclist Crossing Volumes





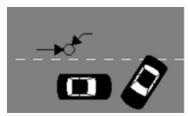
Crash Types by Section



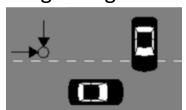


Top 5 Crash Types (Full Corridor):

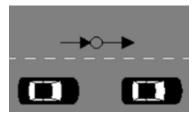
1. Left Turn – 28%



2. Right Angle – 25%



3. Rear End – 20%



4. Sideswipe – 10%



5. Single Vehicle – 9%





Crash Factors by Section

Key Crash Factors

- Failed to Yield ROW (Turning Left) 31%
- Failed to Control Speed 17%
- Disregard of Signal/ Signage/ Striping 16%
- Failed to Maintain Travel Lane **9%**

Primary Crash Factors by Section

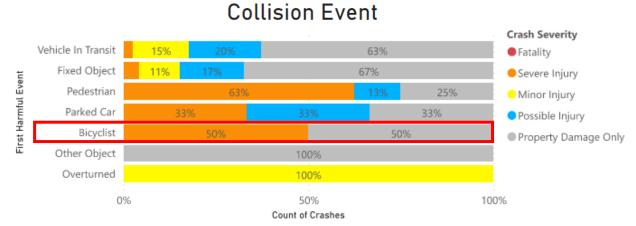
Primary Crash Factor (groups)	1	2	3	4	5	6	7	Total
□ Vehicle Failed to Yield Right Of Way	66	40	27	22	14	12	7	188
■ Failed to Control Speed or Stop	42	18	11	15	3	10	1	100
 Disregard of Signal/Signage/Striping 	38	18	15	4		19	3	97
⊕ Other	30	16	8	4	5	6	5	74
 Not Driving Within Travel Lane 	18	11	9	6	2	5	2	53
□ Unsafe Turning	9	3	2	6	2	2		24
Speeding	9	6		1		1		17
	7	1	2	2	1		1	14
□ Distracted Driving	3	2	3	1	1	3		13
■ None	4	3	1		3			11
■ Pedestrian Failed To Yield Right Of Way To Vehicle	4			1				5
■ Unsafe Passing	1	1		1	1			4
Alcohol	1			1		1		3
□ Fatigued Or Asleep		1						1
Total	232	120	78	64	32	59	19	604

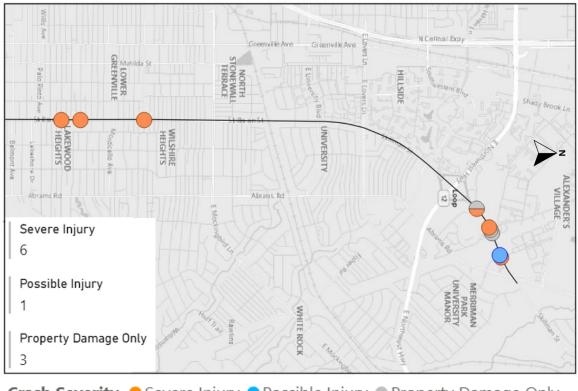


- ➤ Most **speeding crashes** (15 out of 17) occurred on the **north end** of the corridor (Sections 1 and 2)
- > Running red lights at signals is a key factor at intersections with signals.

Pedestrian/Cyclist Crashes

- 70% of the ped/cyclist crashes occurred north of Northwest Highway (section 1)
- When a pedestrian or cyclist is involved, the crash severity drastically increases.
 - Disproportionate percentage of severe injury
- 10 Pedestrian/Cyclist Crashes occurred along the corridor from Jan 2018 to June 2023





Crash Severity • Severe Injury • Possible Injury • Property Damage Only

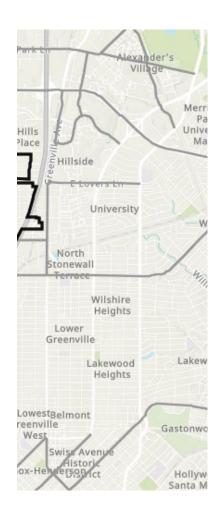


Crashes

City of Dallas Vision Zero Action Plan

The goal of Vision Zero is to eliminate traffic fatalities.

Skillman is not on the High Injury Network (the 7% of Dallas streets that account for 62% of fatal and severe injury crashes).

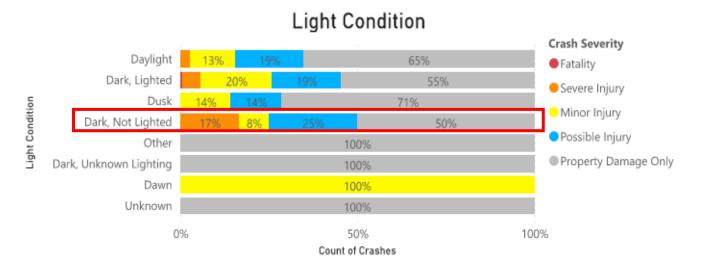


High Injury Network



Lighting Conditions and Time Of Day

- 11 out of 12 dark, not lighted crashes occurred at or north of Mockingbird Ln.
- The afternoon hours see greater number of crashes (compared to morning hours) with <u>Friday</u> being the day of the week with the most crashes.

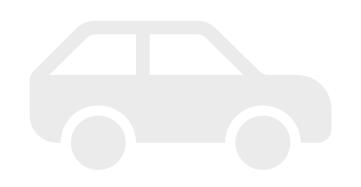


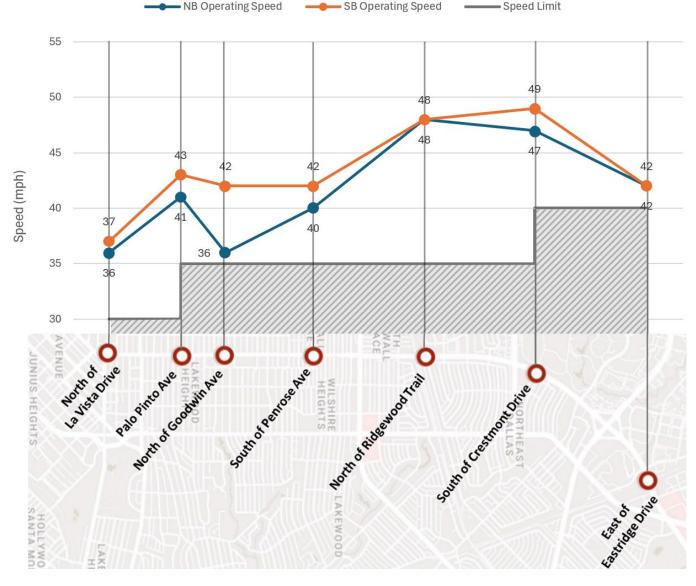
Time (bins)	MON DAY	TUES DAY	WEDN ESDAY	THURS DAY	FRI DAY	SATUR DAY	SUN DAY	Total
12:00 AM			1		2		1	4
1:00 AM	1			2		1	3	7
2:00 AM			2			3	2	7
3:00 AM				2		1	1	4
5:00 AM	3			2	1		2	8
6:00 AM		1	4	1			1	7
7:00 AM	5	3	6	5	2		1	22
8:00 AM	8	10	8	3	4		1	34
9:00 AM	4	3	7	3	5	2	2	26
10:00 AM	1	2	2	2	2	3	2	14
11:00 AM	6	3	4	7	7	6	5	38
12:00 PM	5	5	1	4	5	7	1	28
1:00 PM	3	2	4	2	6	2	1	20
2:00 PM	9	1	12	4	9	7	6	48
3:00 PM	7	6	6	6	10	6	2	43
4:00 PM	13	8	8	7	9	4	1	50
5:00 PM	- 11	9	6	10	18	- 11	3	68
6:00 PM	7	8	9	4	12	5	5	50
7:00 PM	4	7	5	6	7	8	3	40
8:00 PM	2	1	8	4	8	5	7	35
9:00 PM	5	1	4	2	6	2	4	24
10:00 PM	3	3	3		1	3	2	15
11:00 PM	1	3	1	1	2	3	1	12
Total	98	76	101	77	116	79	57	604



Operating Speeds

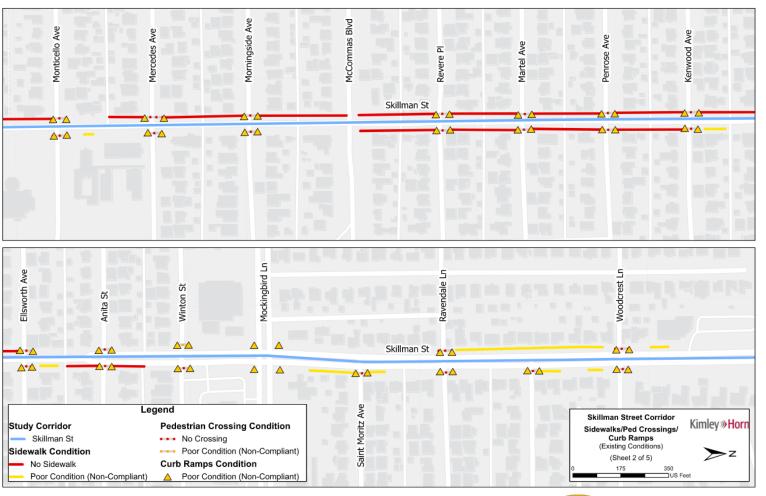
- Speeding was a top concern during the May 2024 public meeting.
- Operating speeds were substantially higher than posted speeds between Penrose Ave. and Crestmont Dr.
- On average, vehicles are traveling 35% over the posted speed limit.







Sidewalk Deficiencies

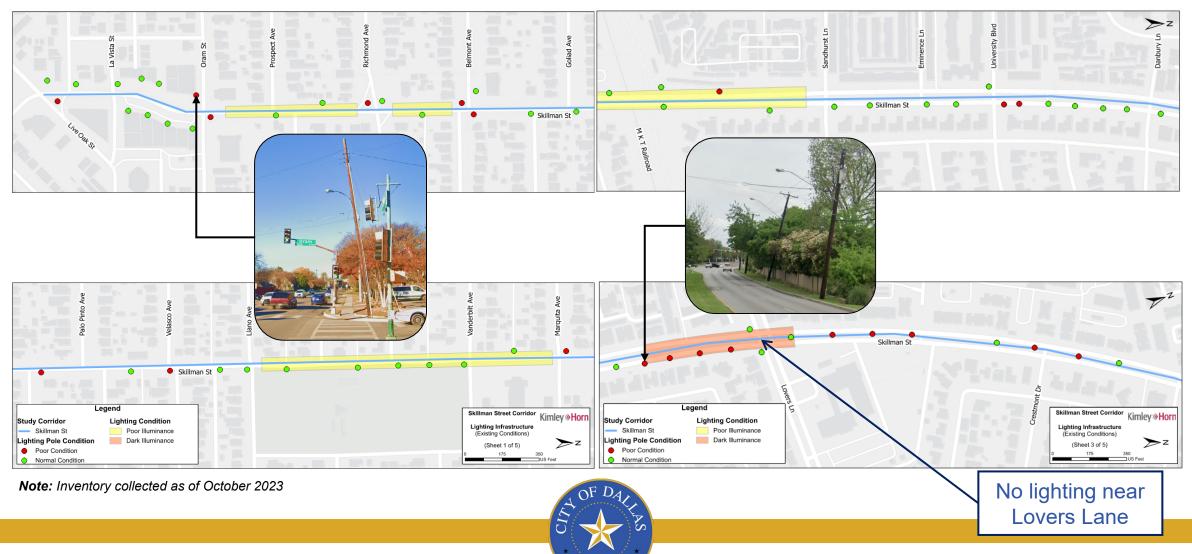


- During the field inventory, many locations were identified with missing or non-traversable sidewalk.
- Of the surveyed ramps, over 50% were in poor condition or non-compliant.
- Poor accessibility was a top concern during the May 2024 public meeting.

STOP

Note: Inventory collected as of October 2023

Lighting Deficiencies



Signal Infrastructure Deficiencies



- Most of the signal infrastructure along the corridor is at "end of useful life" and needs to be replaced.
- Several signal poles has structural damage, due to vehicles strikes.

Note: Inventory collected as of October 2023



Previous Plans

City of Dallas Thoroughfare Plan



- Principal Arterial
- Minor Arterial
- Community Collector
- Residential Collector

City of Dallas Bike Plan (2011)



Planned On-Street Bike Facility

Planned Off-Street Bike Facility

Note: The latest version of the ongoing Bike Plan Update (Summer 2023 version) does not recommend any bike facilities on Skillman or Abrams north of Richmond.



Summary of Existing Conditions

- Heavy pedestrian/cyclist demand crossing Skillman St. adjacent to heavy pedestrian generating areas: Local Shops, Recreational Areas, Bus Stops, Apartments, Homes, etc.
- Significant sidewalk, crosswalk, ramp, lighting, and signal infrastructure deficiencies throughout the corridor.
- Speeding is a significant concern along the corridor.
- Highest density of crashes along northern section of Skillman St. Most pedestrian/cyclist crashes occur here.
- Failure to yield right of way crashes common throughout the corridor, especially around Home Depot Driveway.





Tools to Improve Existing Corridor Issues

1. Slow Down Traffic

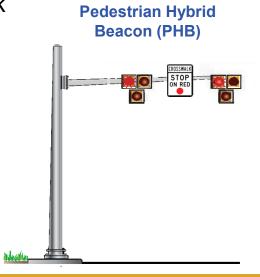
- Narrow traveled lanes
- Road diet (reduce number of lanes)

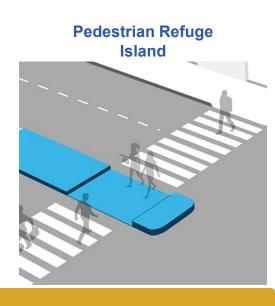
2. Improve Sidewalks, Signals, and Lighting

- Widen/repair deficient sidewalks and fill in sidewalk gaps
- Install additional lighting to illuminate street and sidewalk
- Create wide shared use paths for bike and pedestrians

3. Provide Safe Pedestrian/Cyclist Crossings

- Install Pedestrian Hybrid Beacon (PHB)
- Install Pedestrian Refuge Islands
 - Optional Z-Crossing Configuration







Future Expected Growth

Historic Traffic Growth Rate

	57U2613 -	57U2617 - Skillman	57HP7357 - Skillman	E7112622 Skillman	57U2632 -	57U2664 -		Avg
Year	Skillman South of	North of		North of Sandhurst	Skillman South of	Skillman North of	TOTAL	Annual
	Mockingbird	Mockingbird	at Ridgewood Trl	North or Sandhurst	Lovers	Eastridge		Growth
2023	20,758	20,360	20,360	20,495	20,540	29,287	111,042	3.44%
2019	17,078	17,019	17,356	17,472	18,716	26,433	96,996	-0.81%
2014	19,455	17,559	18,196	17,820	18,423	29,047	101,045	1.72%
2009	18,840	15,900	17,530	16,830	17,160	25,380	92,800	
Growth	-0.98%	0.68%	-0.10%	0.38%	0.87%	0.41%	Average	1.45%
Average	Average 0.21% Assumed (2023 to 2030)						1.00%	
							Assumed (2030 to 2045)	0.50%

Future Projected Traffic Growth Rate

2023 Existing Volumes



2030 Future Volumes



2045 Future Volumes

1% Annual Growth

0.5% Annual Growth



What is LOS?

Level of Service	Signalized Intersection Average Total Delay (sec/veh)
Α	≤10
В	>10 and ≤20
С	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80





Levels of Service (LOS)



Level of Service A



Level of Service D





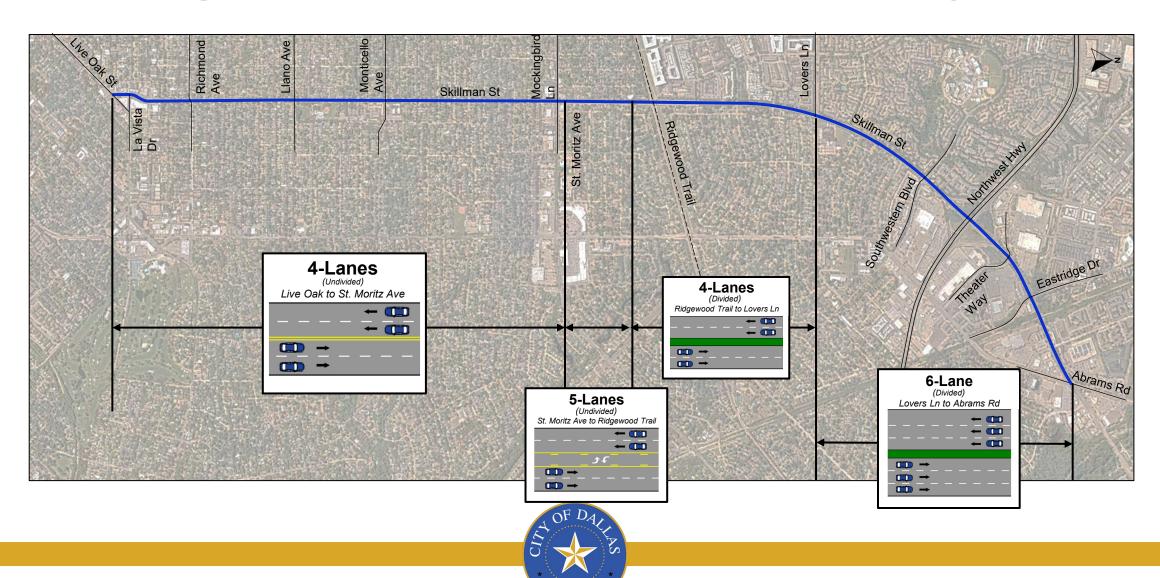
Level of Service E



Level of Service F



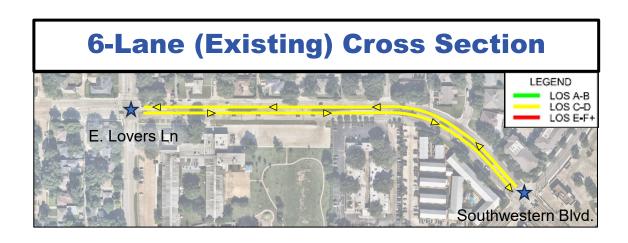
Existing Cross Section of Roadway



Skillman St. Peak Hour Link Analysis (2045)

Traffic operations performs adequately (LOS C) when looking at 2045 projections while maintaining the Existing Lane Configuration.

However, if a lane reduction is implemented, LOS operates at LOS E. Therefore, it is recommended to maintain the existing 6 lane crosssection between Lovers Ln. and Southwestern Blvd.



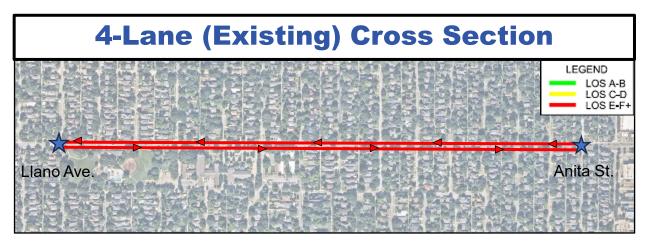


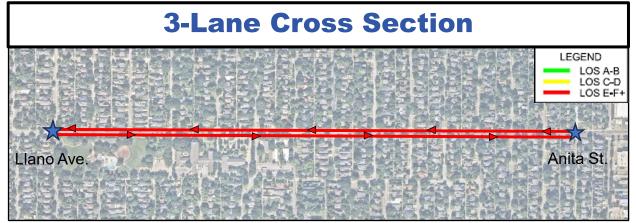


Skillman St. Peak Hour Link Analysis (2045)

With the **Existing Cross Section**, operations performs at **LOS E** when looking at 2045 projection.

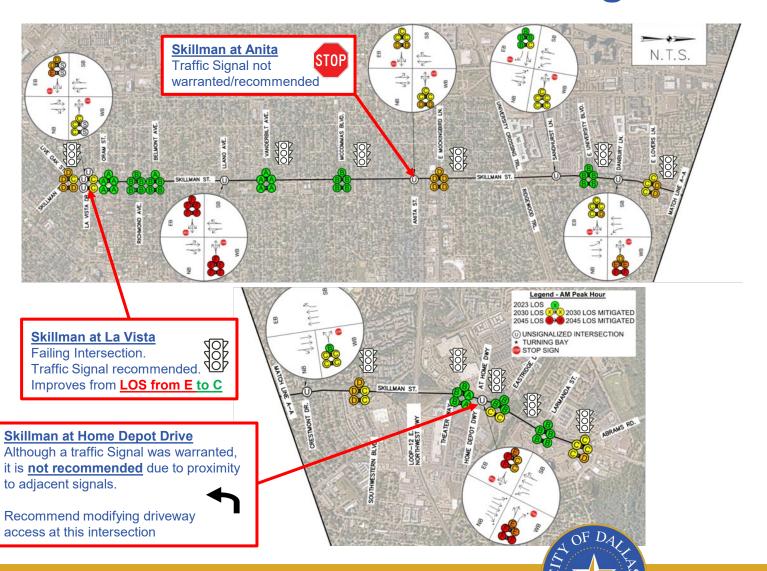
However, if a lane reduction is implemented, LOS degrades to LOS F. Therefore, it is recommended to maintain the existing 4 lane crosssection between Llano Ave. to Anita St.







Intersection LOS Evaluation/Signal Warrants – AM Peak Hour



15 out of 15 signalized intersections are projected to operate at LOS D or better during the AM peak hour in 2045 with signal timing adjustments.

Traffic Signal Warrants

Intersection	Scenario	Warrant Met?
	2023 Existing	No
Skillman Street & Danbury Lane	2030 Background	No
	2045 Background	No
	2023 Existing	No
Skillman Street & Sandhurst Lane	2030 Background	No
	2045 Background	No
Skillman Street & Llano Ave	2023 Existing	No
	2030 Background	No
	2045 Background	No
	2023 Existing	Yes
Skillman Street & La Vista Drive	2030 Background	Yes
	2045 Background	Yes
	2023 Existing	No
Skillman Street & Anita Street	2030 Background	No
	2045 Background	No
	2023 Existing	No
Skillman Street & Woodcrest Lane	2030 Background	No
	2045 Background	No
Skillman Street & Hama Danet	2023 Existing	Yes
Skillman Street & Home Depot Driveway/At Home Driveway	2030 Background	Yes
Dilveway/Actionie Dilveway	2045 Background	Yes

Intersection LOS Evaluation/Signal Warrants - PM Peak Hour

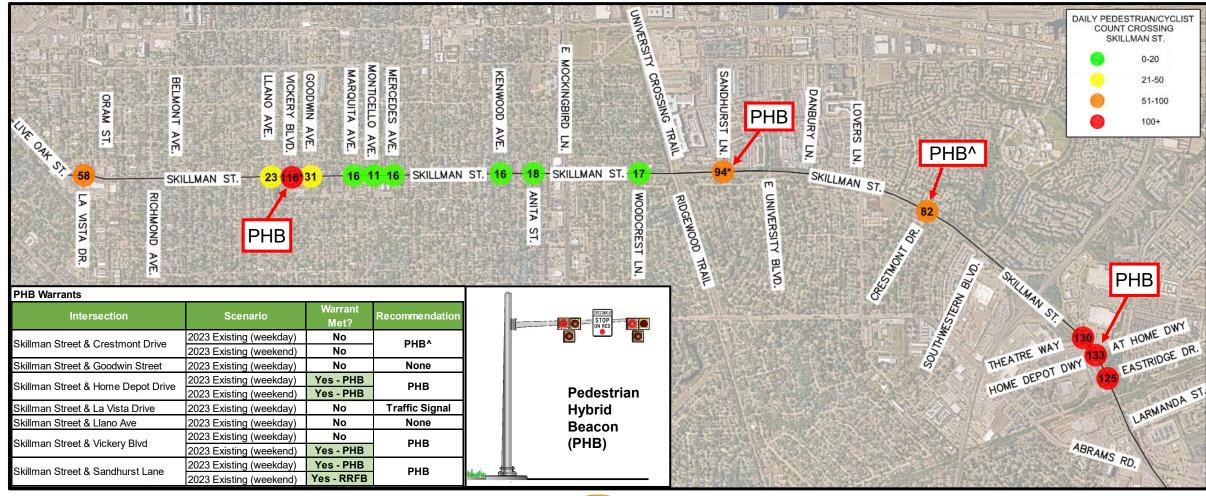


14 out of 15 signalized intersections are projected to operate at LOS D or better during the PM peak hour in 2045 with the signal timing adjustments.

Traffic Signal Warrants

Intersection	Scenario	Warrant Met?
	2023 Existing	No
Skillman Street & Danbury Lane	2030 Background	No
	2045 Background	No
	2023 Existing	No
Skillman Street & Sandhurst Lane	2030 Background	No
	2045 Background	No
Skillman Street & Llano Ave	2023 Existing	No
	2030 Background	No
	2045 Background	No
	2023 Existing	Yes
Skillman Street & La Vista Drive	2030 Background	Yes
	2045 Background	Yes
	2023 Existing	No
Skillman Street & Anita Street	2030 Background	No
	2045 Background	No
	2023 Existing	No
Skillman Street & Woodcrest Lane	2030 Background	No
	2045 Background	No
Chilling on Charlet 9 Harres Day of	2023 Existing	Yes
Skillman Street & Home Depot	2030 Background	Yes
Driveway/At Home Driveway	2045 Background	Yes

Pedestrian/Bike Volumes and PHBs/RRFBs



^{*}Weekend Pedestrian Volume Displayed



[^]PHB Recommended to Accommodate Pedestrian Demand

Summary of Traffic Analysis

- It is recommended to maintain the existing cross-section of the roadway
- Historical data provided an annual growth rate of 0.21%. → Traffic Analysis assumed annual growth rates of 1% through 2030 and 0.5% through 2045
- 14 out of 15 signalized intersections will operate at LOS D or better in 2045 during the peak hours
- PHBs are recommended at Vickery Blvd, Sandhurst Ln, Home Depot Driveway, and Crestmont Dr
 - Although not warranted, <u>a PHB is recommended</u> at Crestmont Drive due to high pedestrian demand and potential sight distance constraints with the existing curvature of the roadway.







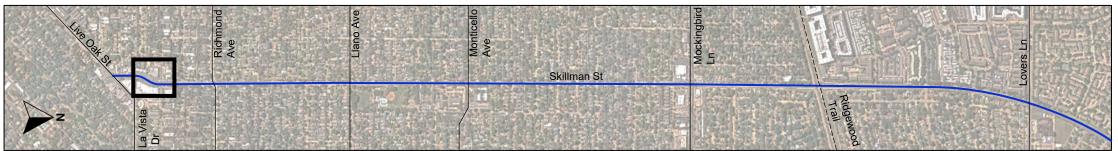
Proposed Curb and Wheel Stops



Existing Challenges with drainage and lack of separation between parking and traveled way

Proposed Raised Sidewalk

Location Along the Corridor



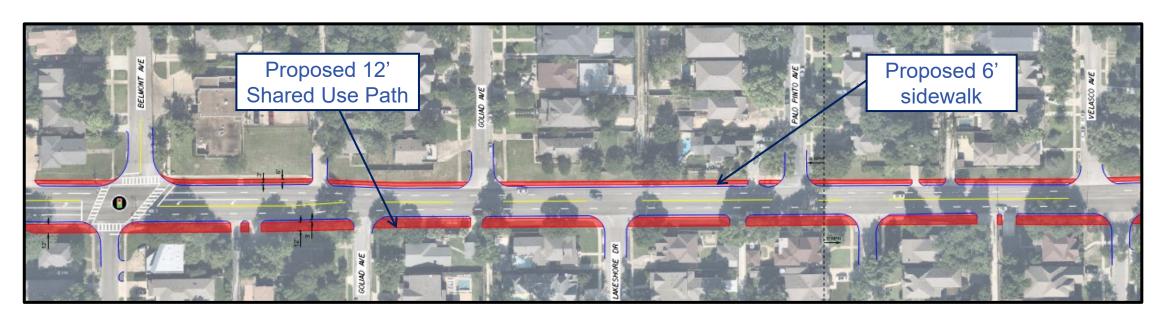
SKILLMAN LIVE OAK CENTER

Proposed Curb and Gutter

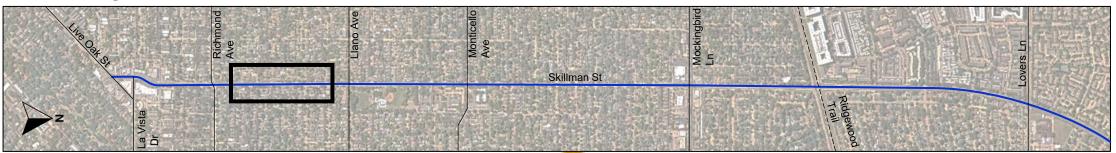
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Between Belmont and Velasco

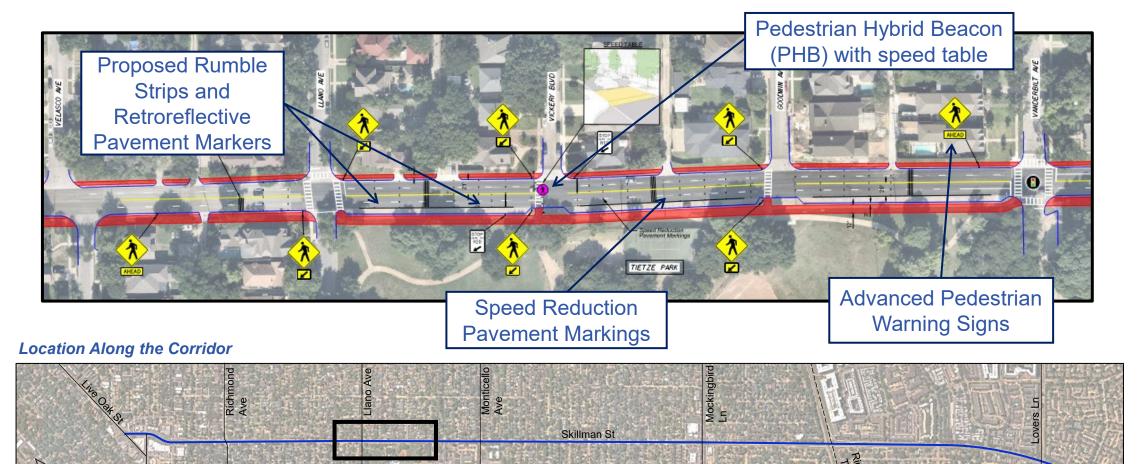


Location Along the Corridor



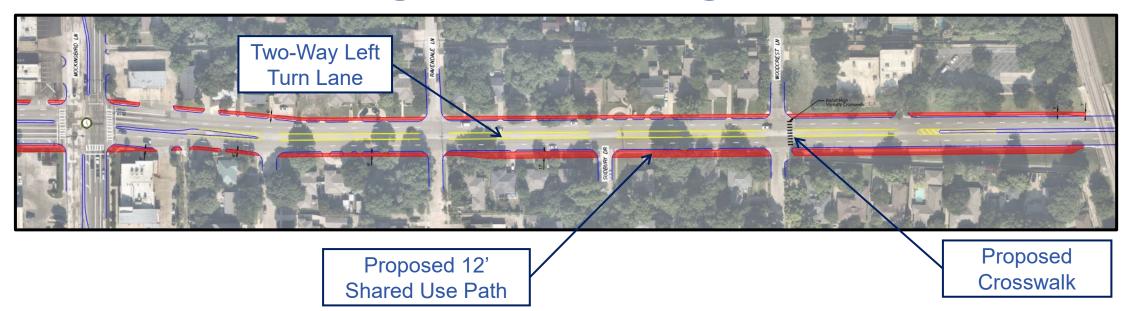


Between Velasco and Vanderbilt

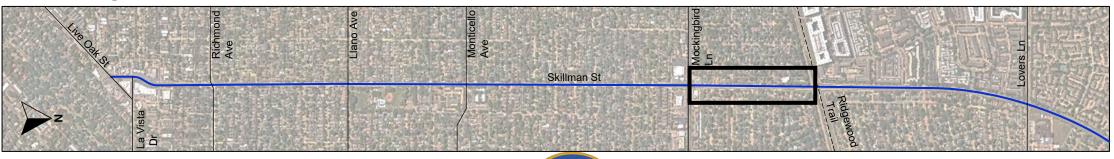




Between Mockingbird and Ridgewood Trail

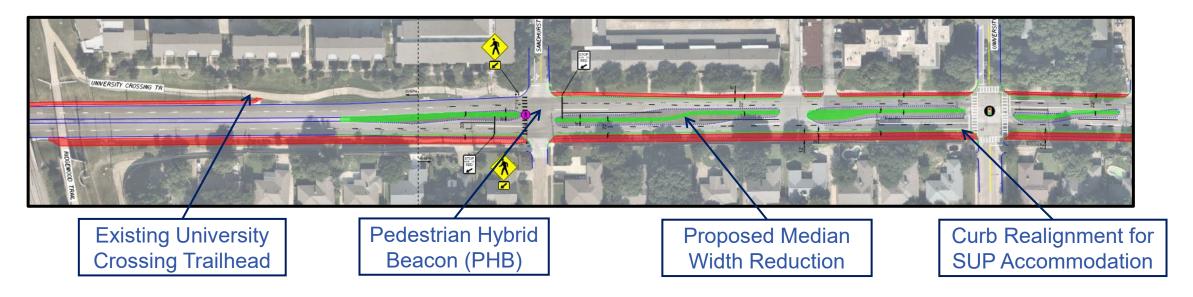


Location Along the Corridor

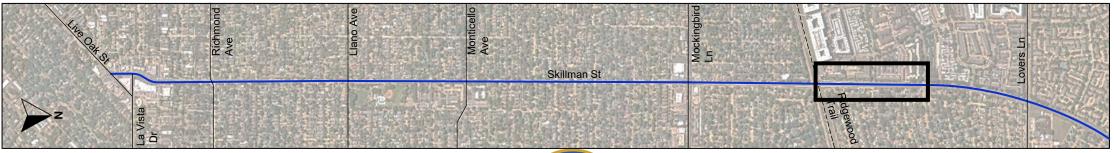




Between Ridgewood Trail and University

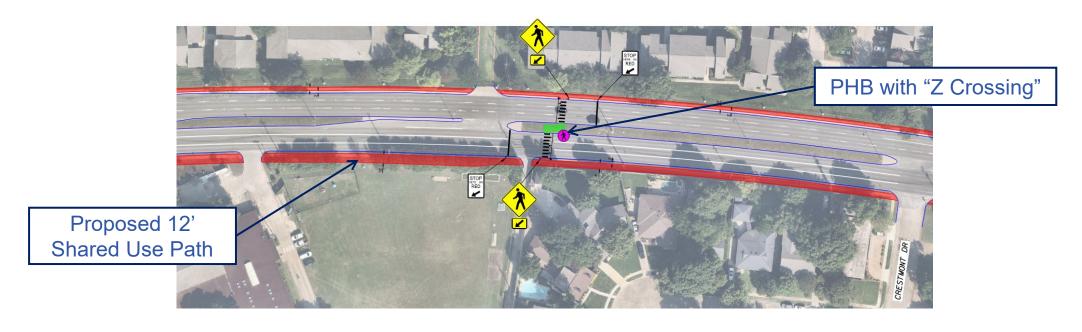


Location Along the Corridor

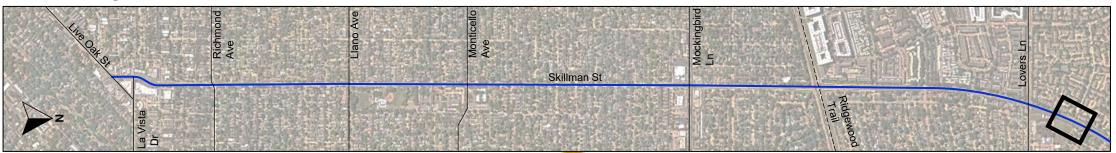




Between Lovers and Crestmont



Location Along the Corridor



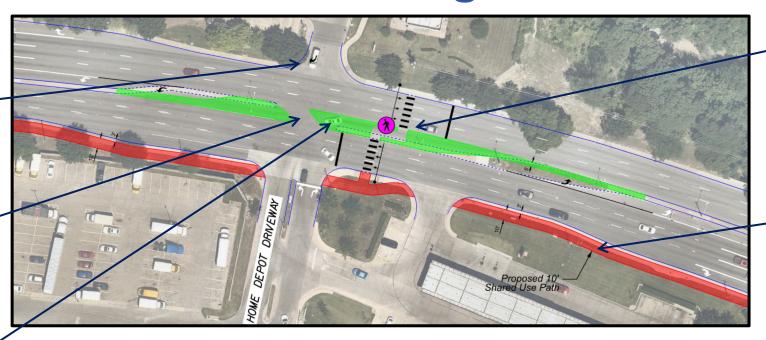


Between Theater and Eastridge

Right-In Right-Out

Provide Left Turn
Access for exiting
Home Depot Driveway

Restrict Access to Improve Safety



PHB with "Z Crossing"

Proposed 10' Shared Use Path

Location Along the Corridor







Implementations of Improvements

Summary of Improvements								
Short Term	Long Term							
Signal timing improvements at key intersections	• Installation of 12' Shared Use Path on east side of Skillman St. and 6' sidewalk on west side of Skillman St. from Oram St. to Southwestern Blvd.							
Wheel stops or curb/gutter installation between La Vista Dr. and	 Installation of 10' Shared Use Path along Skillman St. from Theater Way to Abrams Rd. 							
 Oram St. along Skillman St. Speed reduction pavement markings and rumble strips on Skillman St. Near Tietze Park High visibility crosswalk at Woodcrest Ln. 	 Installation of curb and gutter with a 6' sidewalk along Skillman St. from La Vista Dr. to Oram St. (Requires relocation of striped parking stalls) 							
	Signal infrastructure improvements at key intersections (with end-of-life signal equipment)							
	Proposed PHB signal at Vickery Blvd. and Skillman St. near Tietze Park							
	Median narrowing from Ridgewood Trail To Lovers Ln.							
	Median Improvements with proposed PHB signal at Home Depot Driveway							
	OF DA							



Concluding Thoughts

- Skillman St. has a history of high crash rates with speeding being a big concern
- There are many pedestrian generators along the corridor with high pedestrian crossings
- PHBs will improve pedestrian safety
- All recommended improvements can be made with nominal impact to LOS
- Shared Use Pathways help to accommodate bikes/peds in a safe manner
- 15 out of 15 signalized intersections are projected to operate at LOS D or better during the AM peak hour in 2045 with signal timing adjustments.





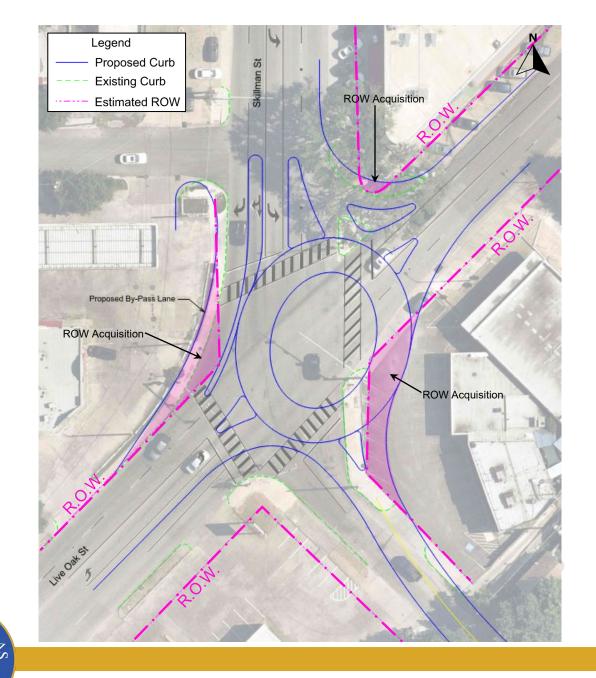
Roundabout at Live Oak and Skillman

Benefits

- ✓ Improve current skew of intersection
- ✓ Control speeds through the intersection
- ✓ Opportunity to install artwork or vegetation

Disadvantages

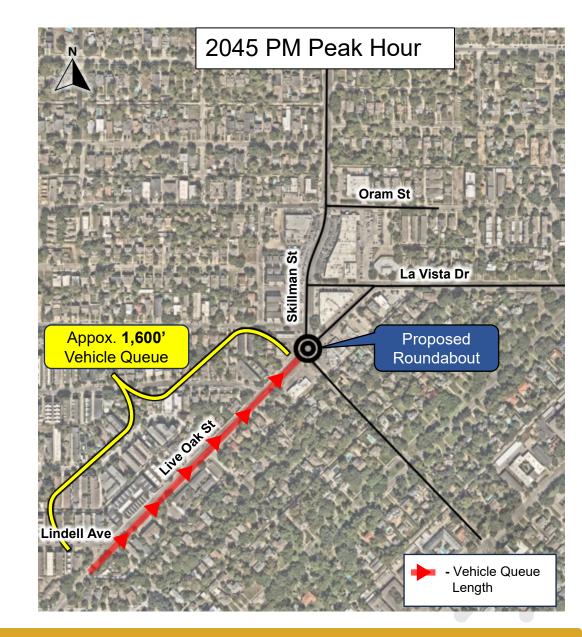
- ROW acquisition is necessary
- Long queues are expected due to eastbound approach having heavy demand
- Not an ideal solution to accommodate the heavy pedestrian demand



Roundabout at Live Oak and Skillman: LOS and Queueing

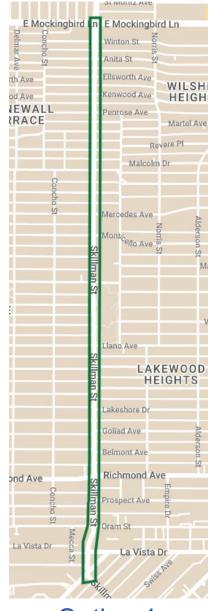
A roundabout would affect **intersection LOS** in the following ways:

- 2045 AM peak hour: Live Oak Intersection LOS would improve from LOS D to LOS B
- 2045 PM peak hour: Live Oak Intersection LOS would worsen from LOS C to LOS F (150 seconds of delay)
- 2045 both peak hours: La Vista Intersection worsens from LOS C (signalized) to LOS F (unsignalized) (633 seconds of delay for Eastbound approach)



Lane Reduction Options

- Option 1: 3 lane Cross-Section from Mockingbird to Live Oak
- Option 2: 3 lane Cross-Section from McCommas to Richmond







Option 2



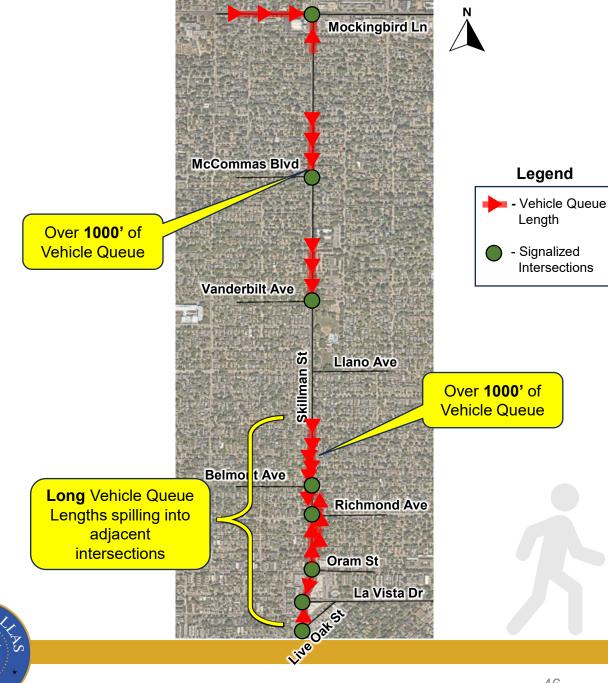
Lane Reduction: Option 1 (Mockingbird to Live Oak)

Benefits

- Consistent road-diet and traffic calming for a long stretch of the corridor
- Control speeds through this pedestrian centric corridor

Disadvantages

- Substantial queueing and degradation of LOS and expected delay
- Long queues are expected at the major signalized intersections, due to reduced capacity.
- Several intersections will have cycle failure and queue buildup into adjacent signalized intersections.



Lane Reduction : Option 1 LOS and Queueing

A road diet would affect **intersection LOS** in the following ways:

- 2045 AM peak hour: Live Oak Intersection
 LOS would worsen from LOS D to LOS E
- 2045 PM peak hour: Live Oak Intersection LOS would worsen from LOS C to LOS F (150 seconds of delay)
- 2045 PM peak hours: Richmond Intersection worsens from LOS C (signalized) to LOS E (unsignalized)

INTERSECTION	APPROACH	2045 4 Lane Cross- Section		2045 3 Lane Cross- Section			
		AM Peak Hour				Delay Change(s)	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS		
Signalized Intersections							
Skillman St @ Li	ve Oak St	35.1	D	79.8	E	127%	
Skillman St @ La Vista		27.5	С	52.5	D	91%	
Skillman St @ Oram St		4.3	Α	4.6	Α	7%	
Skillman St @ Richmond Ave		17.9	В	34.4	С	92%	
Skillman St @ Belmont Ave		14.0	В	18.5	В	32%	
Skillman St @ Vanderbilt Ave		4.4	Α	7.9	Α	80%	
Skillman St @ McCommas Blvd		11.3	В	19.7	В	74%	
Skillman St @ Mockingbird Ln		51.4	D	48.4	D	-6%	

	APPROACH	2045 4 Lane Cross- Section		2045 3 Lane Cross- Section			
INTERSECTION		PM Peak Hour				Delay Change(s)	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS		
Signalized Intersections							
Skillman St @ Li	ve Oak St	30.9	С	111.2	F	260%	
Skillman St @ La Vista		20.2	С	37.9	D	88%	
Skillman St @	Oram St	8.8	Α	10.1	В	15%	
Skillman St @ Richmond Ave		26.5	С	63.3	E	139%	
Skillman St @ Be	elmont Ave	6.7	Α	20.1	С	200%	
Skillman St @ Vanderbilt Ave		4.2	Α	6.4	Α	52%	
Skillman St @ McCommas Blvd		8.5	Α	14.0	В	65%	
Skillman St @ Mockingbird Ln		68.4	E	64.1	E	-6%	



Lane Reduction: Option 2 (McCommas to Richmond)

Benefits

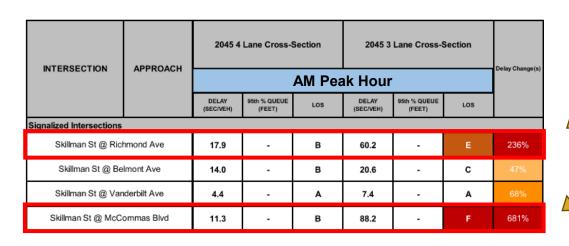
- Less significant impact to vehicular LOS and Delay, when compared to Option 1
- ✓ Ability to control speeds, especially around Tietze Park area
- ✓ Bringing the curb inward would accommodate wider sidewalks and buffer areas

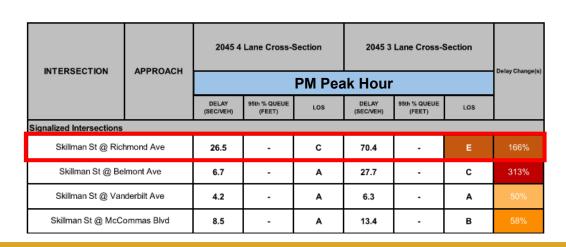
Disadvantages

- Queueing and degradation of LOS and Delay is expected at key intersections
- Significant Queues are expected at Richmond and Belmont



Lane Reduction: Option 2 LOS and Queueing





Reducing the number of lanes from 4 to 3 (with a center left turn lane) would affect **intersection LOS** in the following ways:

- 2045 PM peak hour: Richmond Intersection LOS worsens from LOS C to LOS E (70 seconds of delay)
- 2045 AM peak hour: Richmond Intersection LOS worsens from LOS B to LOS E (60 seconds of delay); McCommas Intersection LOS worsens from LOS B to LOS F (88 seconds of delay)
- No other intersections would worsen to LOS E or F as a result of the road diet

Reducing the number of lanes from 4 to 3 (with a center left turn lane) would affect **link LOS (V/C)** in the following ways:

- 2045 Daily LOS worsens from LOS B to LOS C
- 2045 AM LOS worsens from LOS C to LOS F (1.19 V/C ratio)
- 2045 PM LOS worsens from LOS E to LOS F (1.51 V/C ratio)



Q&A and Comments

Comments will be accepted through **November 30th**. Fill out one of the comment forms.

Project Webpage:

https://dallascityhall.com/departments/transportation/Pages/Abrams-Skillman-Corridor-Studies.aspx



