



I-69 Connector From I-69C/US 281 to I-69E/US 77

Technical Workgroup Meeting #2

CSJ: 0921-02-353



The meeting will begin momentarily

- If you have dialed into the audio, please **mute** your phone, speakers, and headset to prevent feedback.
- If you have dialed in by phone and are listening through your computer speakers, please **mute** your phone.
- Please do not place the call on hold, as all callers will hear the hold tones.
- Please open the “chat” feature so you can follow along with any comments provided or questions being asked

DISCLAIMER: This meeting is being recorded to assist the project team with capturing comments for TWG documentation purposes



Safety: Mission

ZERO

Safety Never Stops!

Hydration and Fatigue: Eat Your Water



Avoiding Dehydration is a Year-Round Quest

Cooler temperatures do not reduce the need to replace fluids throughout your work day. Adding water rich fruits and vegetables to your meals and snacks enhances hydration.

Hydration Facts

- Per the CDC, every day, an estimated 75% of us are not consuming enough water to support health and optimum performance.
- Studies found that 91% of us are already dehydrated before we start our day.

Fruits and Vegetables with High Water Content

- Cucumber, Iceberg Lettuce, Celery, Radish, Zucchini (95%-96% Water Content)
- Tomato, Cabbage, Watermelon, Strawberry, Spinach (92%-94% Water Content)
- Sweet Pepper, Eggplant, Cauliflower, Broccoli, Grapefruit (91%-92% Water Content)
- Cantaloupe, Peach, Orange, Pineapple, Raspberries (87%-90% Water Content)

How to Avoid Dehydration

- Plan hydration breaks throughout each shift and call timeout when you need to hydrate.
- Drink 8 oz of water for every 15 to 20 minutes working in extreme heat and eating water rich foods can boost energy and prevent fatigue.
- Don't wait until you are thirsty to drink fluids.

Symptoms of Dehydration

- Muscle fatigue, thirst, dry mouth, weakness, dizziness, and confusion.





- Name
- Organization



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Blanton & Associates



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**Pedro "Pete" Alvarez, P.E.
District Engineer, Pharr**



- 1 Purpose of TWG Meeting
- 2 Study Overview
- 3 Preliminary Corridor Alternatives
- 4 Recommended Primary Corridor Alternatives
- 5 Q&A & Break
- 6 Primary Corridor Alternatives Evaluation
- 7 Break, Interactive Mapping Session and Q&A
- 8 Next Steps



- Provide Overview and Status of Corridor Planning Study
- Summarize Public Involvement Conducted to Date
- Review Alternatives Screening and Evaluation

Evaluation Categories	Preliminary Corridor Alternatives	Primary Corridor Alternatives
Traffic	Review projections across study areas (Southern, Central, Northern)	Review projections across corridor alternatives
Goals & Objectives	Qualitative assessment across study areas	Qualitative assessment across corridor alternatives
Engineering & Environmental	Review parameters collected	Review comparative data and quantitative scoring

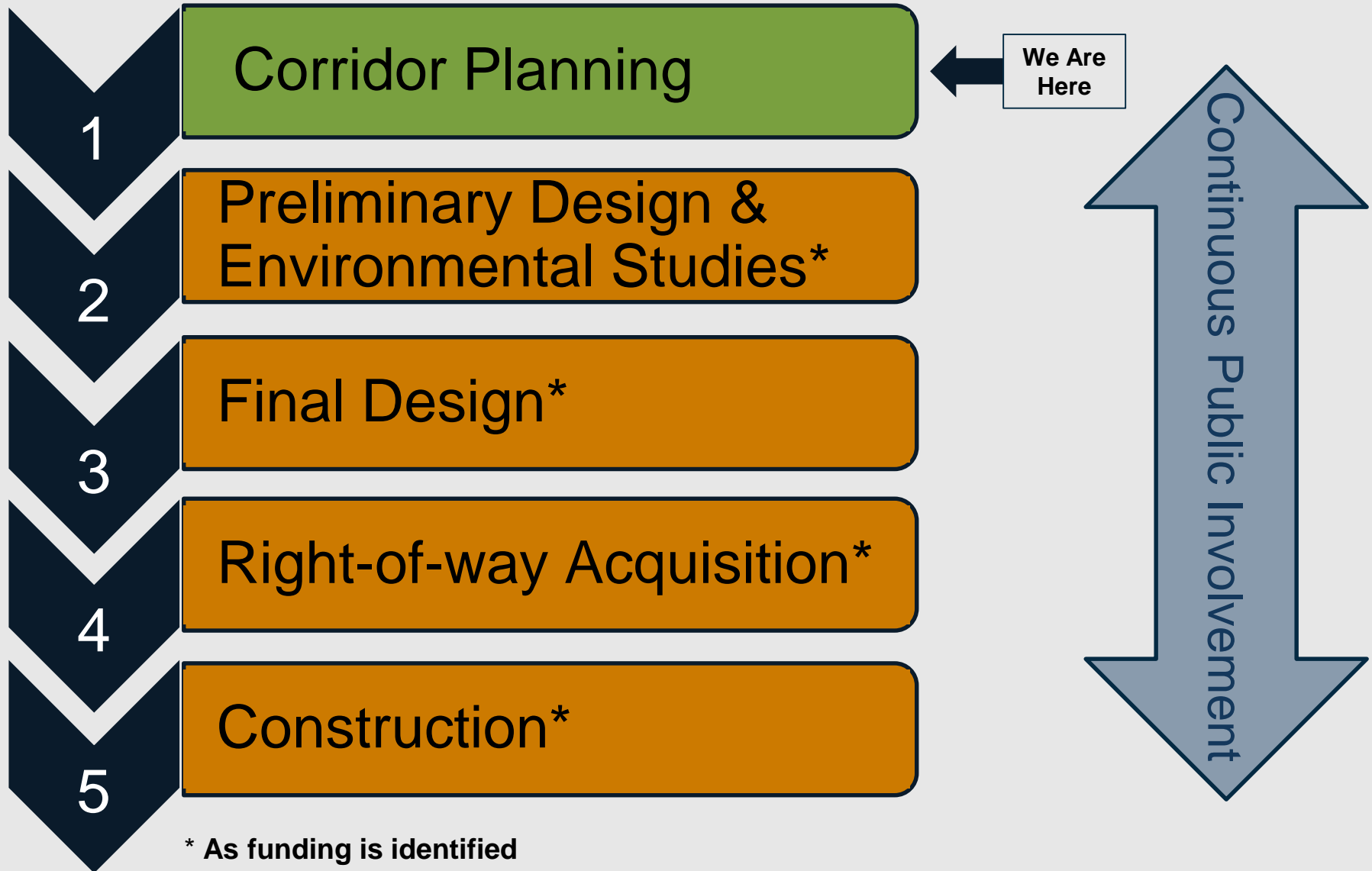
- Obtain TWG's Input on Four Primary Corridor Alternatives



- **October 2019 TWG Meeting #1**
 - 27 TWG attendees (68 invited)
- **Introduced the I-69 Connector Corridor Feasibility Study to the TWG**
- **Participants assisted in developing**
 - Goals and objectives of the study
 - Preliminary corridor alternatives for further study
- **TWG attendees helped to identify key issues within the study area**
 - Planned developments and potential constraints
 - Current transportation issues and future needs



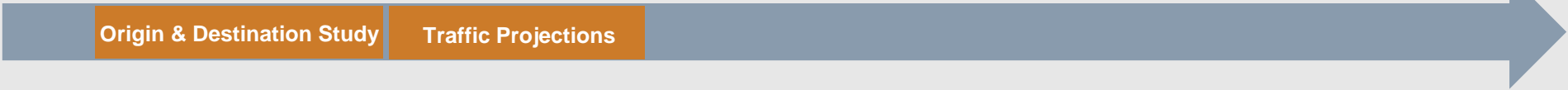
Note: A summary of the December 2019 public meetings will also be provided



Study Overview - Timeline

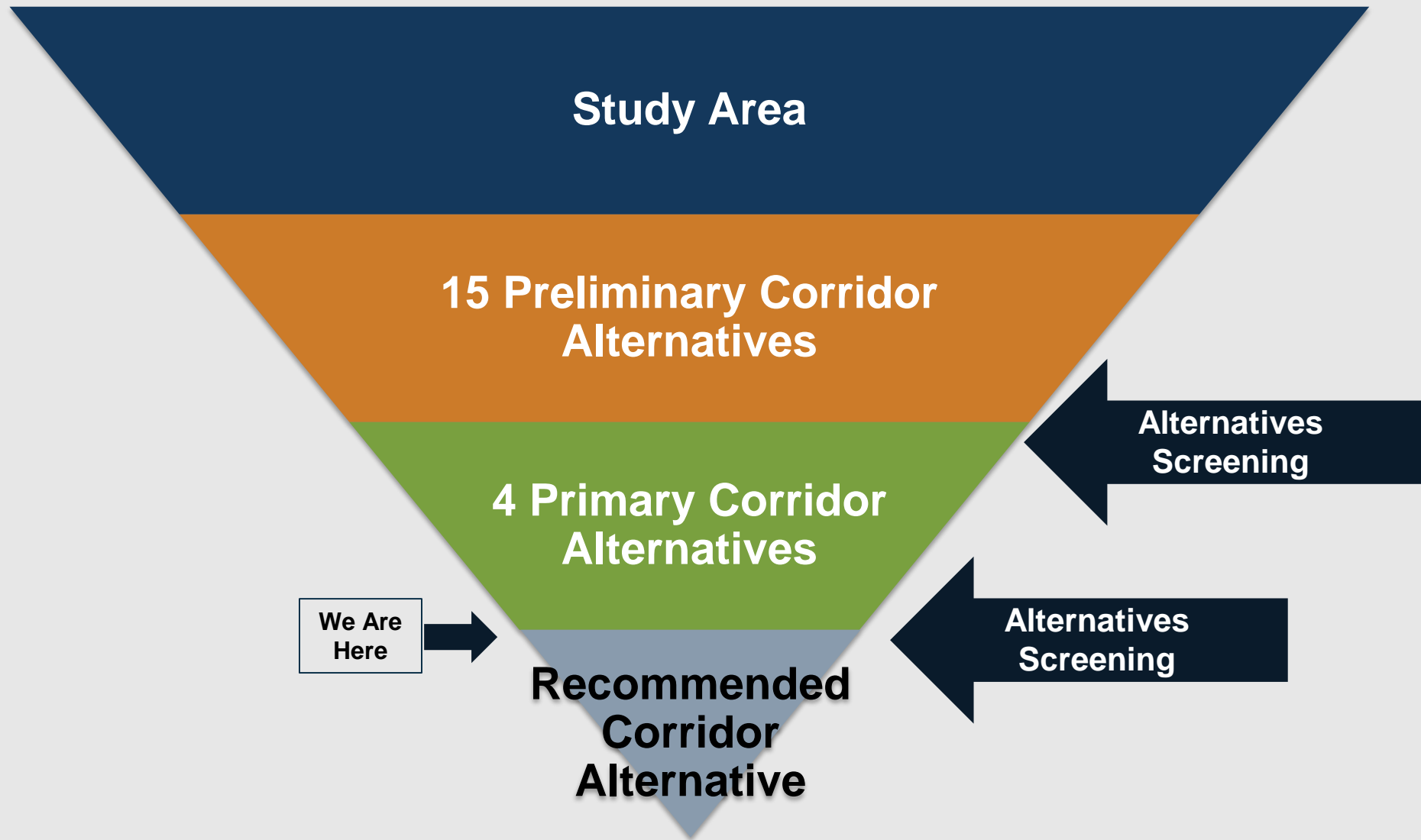


We Are Here



**Dates are subject to change*

***To be determined*





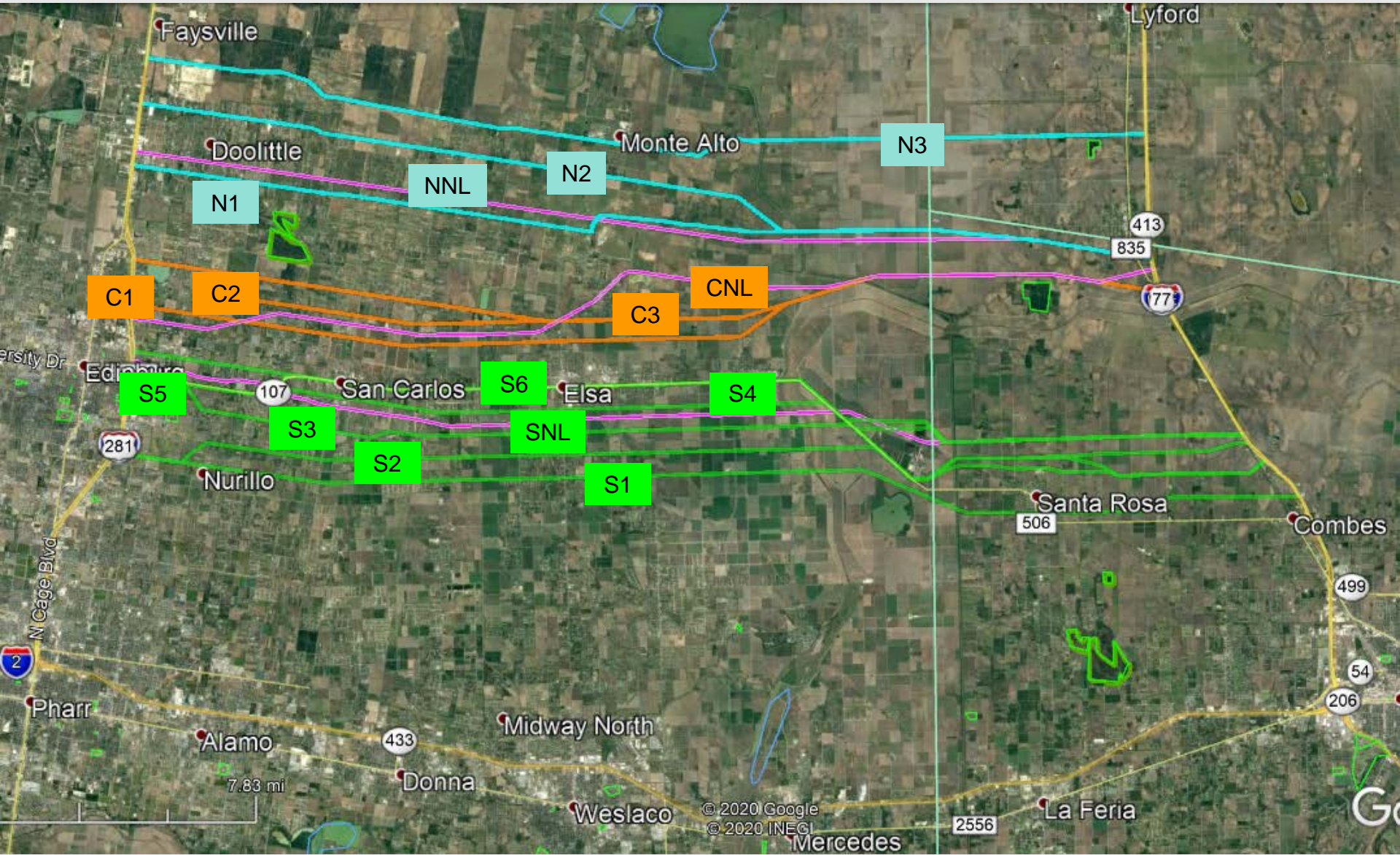
Preliminary Corridor Alternatives



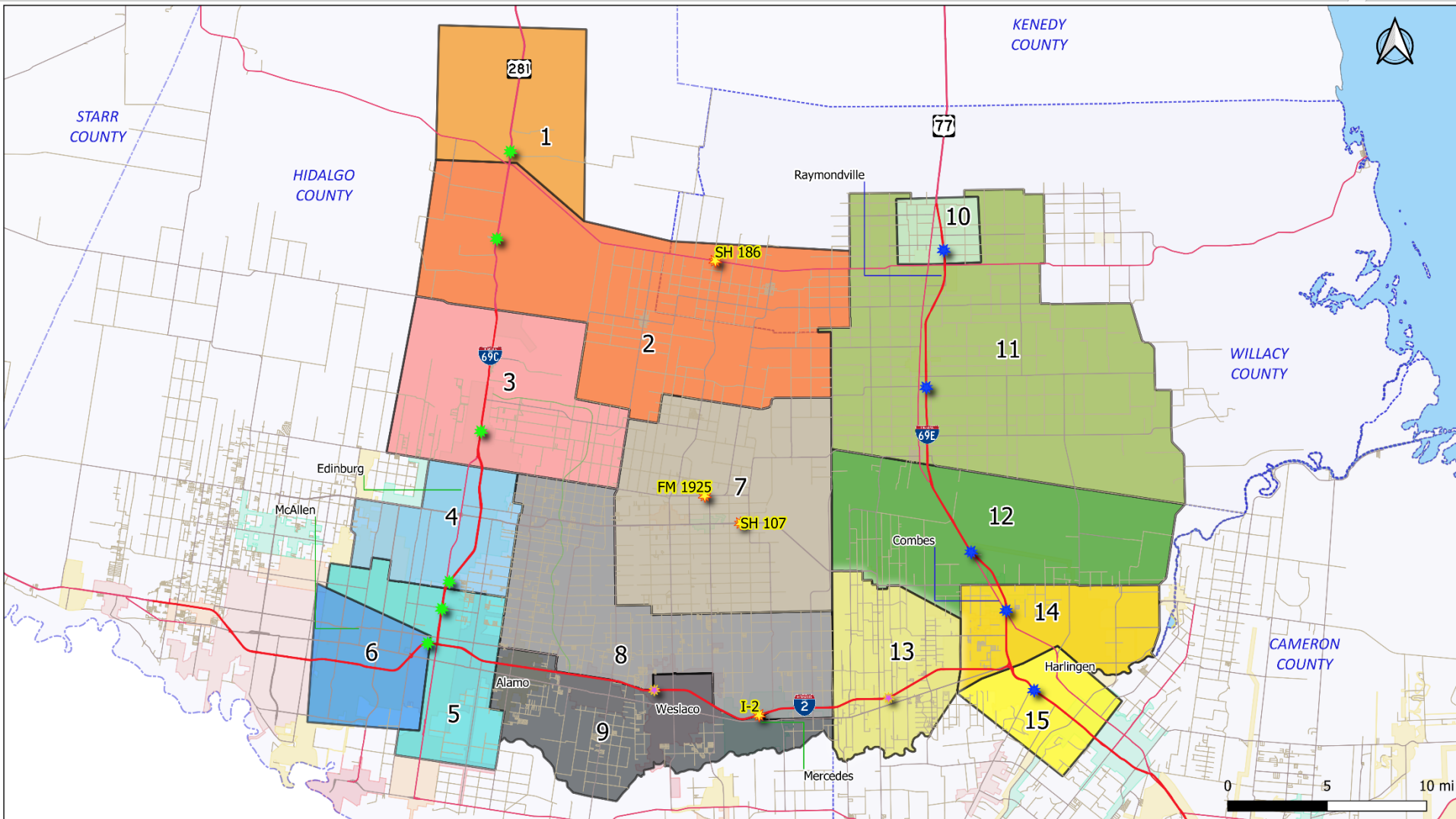
- 15 Preliminary Corridor Alternatives
 - Developed based on TWG/public input, traffic studies, and engineering and environmental constraints
 - Grouped into three identified study area zones (centered around):
 - SH 107 (south zone), FM 1925 (central zone) and FM 2812 (north zone)

South Zone	Central Zone	North Zone
7 Corridor Alternatives	4 Corridor Alternatives	4 Corridor Alternatives
<ul style="list-style-type: none"> • 6 on a combination of existing roads and new location • 1 entirely on new location 	<ul style="list-style-type: none"> • 3 combination alternatives • 1 entirely on new location 	<ul style="list-style-type: none"> • 3 combination alternatives • 1 entirely on new location

Preliminary Corridor Alternatives




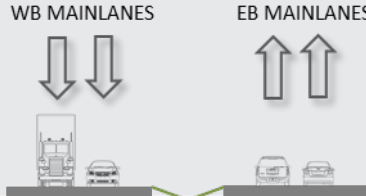
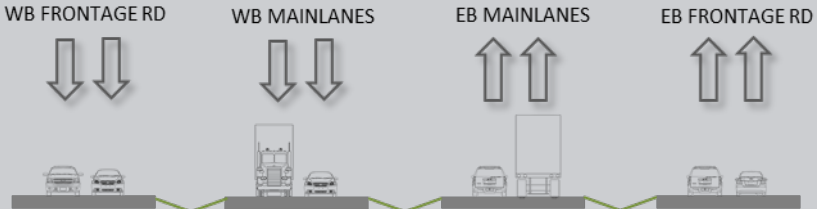
Traffic Studies – Origin & Destination (O-D) Study (StreetLight Zones)



LEGEND					
Zone 1	Zone 4	Zone 7	Zone 10	Zone 13	I-69C Pass-Through Zones
Zone 2	Zone 5	Zone 8	Zone 11	Zone 14	I-69E Pass-Through Zones
Zone 3	Zone 6	Zone 9	Zone 12	Zone 15	I-69 Corridor Center Pass-Through Zones
					I-69 Corridor Middle Filter Locations



Preliminary Corridor Alternatives Annual Average Daily Traffic (AADT) Estimates

Route	2025 AADT	2045 AADT	Potential (Ultimate) Typical Section
Northern Corridor Alternatives (N1 to N3 & NNL)	4,530	6,330	Collector 
Central Corridor Alternatives (C1 to C3 & CNL)	14,760	20,680	Arterial 
Southern Corridor Alternatives (S1 to S6 & SNL)	32,810	45,950	Freeway 

Assumed Growth Rate: 2%

Note: Potential typical sections are based on projected traffic

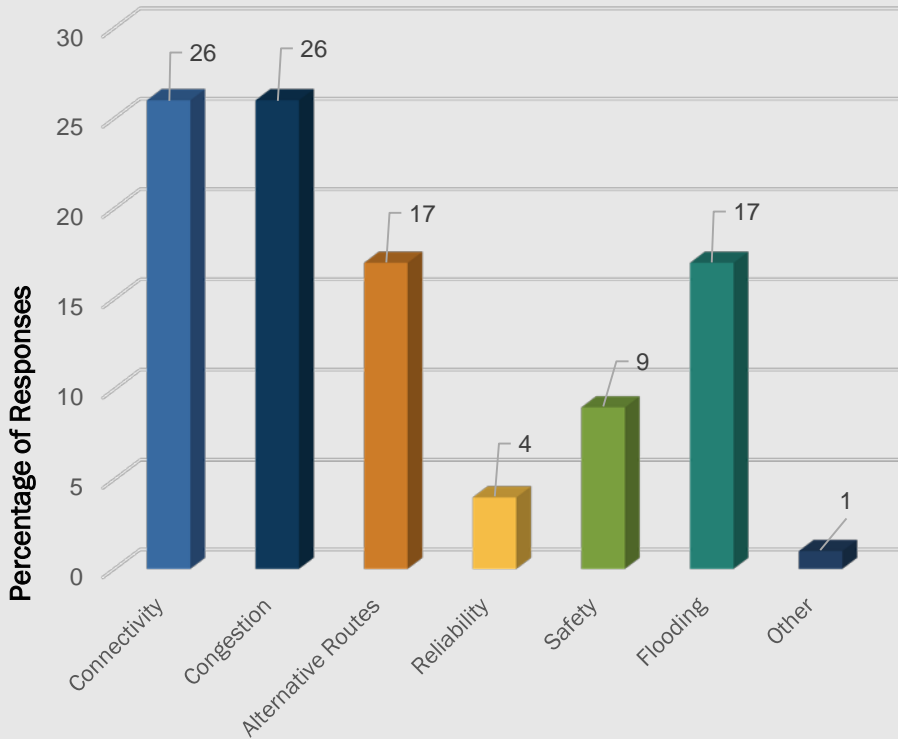


Route	2025 Reduction in I-2 AADT	2045 Reduction in I-2 AADT	2025/45 Percent Reduction
Northern Corridor Alternatives (N1 to N3 & NNL)	490	690	0.4%
Central Corridor Alternatives (C1 to C3 & CNL)	5,900	8,250	5.3%
Southern Corridor Alternatives (S1 to S6 & SNL)	20,850	29,200	18.7%

Assumed Growth Rate: 2%



I-69 Connector TWG Meeting #1

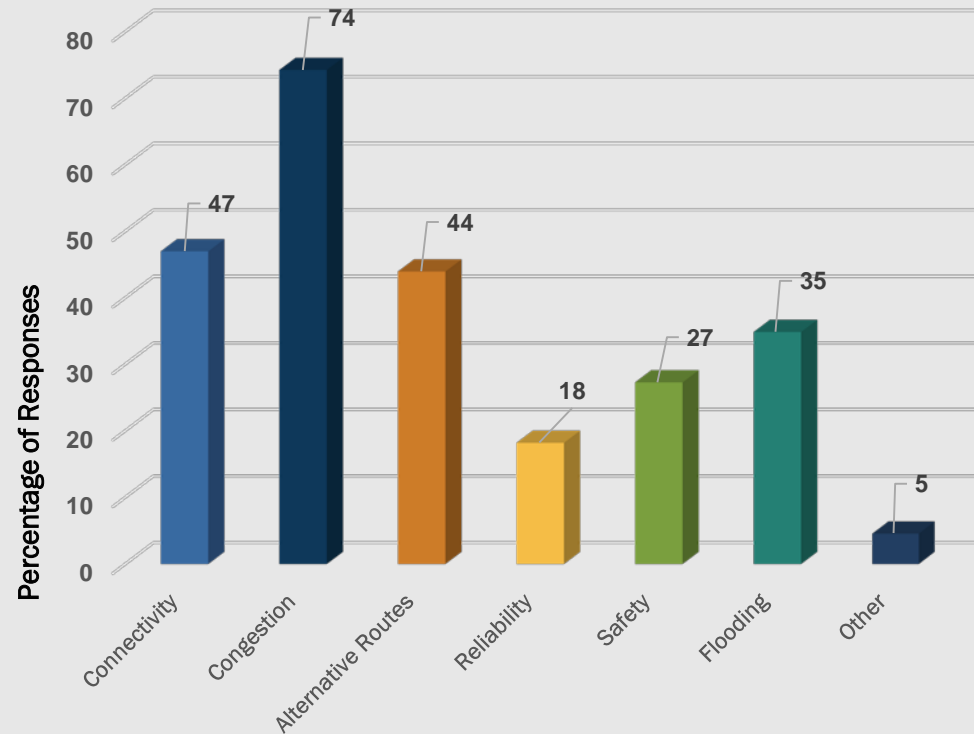


Transportation Challenges

TWG Meeting #1 (October 2019)

- 27 TWG attendees (68 invited)

I-69 Connector December 2019 Public Meetings



Transportation Challenges

Open House #1 (December 2019)

- Hidalgo: 46 attendees (2 Elected Officials)
- Cameron: 30 attendees (3 Elected Officials)
- 67 surveys and 19 comments received



Evaluation Criteria	Weighting (%)	South	Central	North
Alleviate traffic congestion on I-2	30%	9	5	1
Provide additional capacity & infrastructure to meet future population growth & travel demand	20%	9	5	1
Provide an additional hurricane evacuation route in the LRGV	25%	5	5	5
Improve mobility	10%	7	7	1
Enhance overall connectivity of the transportation network in the LRGV	15%	7	7	1
Weighted Score	100%	7.5	5.5	2.0

Note:

Numeric value assigned for scoring (**Low = 1; Medium = 5; High = 9**)

Weighting based on factors deemed important by the TWG and public input on the community survey (Congestion, Connectivity, Alternative Routes, Flooding, Safety)



Engineering Parameters

- Meets Goals and Objectives
- Length of Facility
- Proposed ROW Requirements (350 ft Corridor)
- Estimated Construction Cost
- Railroad Crossings
- Drainage Easement Crossings
- Transmission Line Crossings
- Wind Farms

Environmental Parameters

- Parcels Impacted
- Potential Impacted Properties
- Residential
- Agricultural
- Commercial/Industrial
- Institutional (Schools, Churches, Hospitals, Museums)
- Transportation
- Undeveloped
- Neighborhoods Bisected
- Colonias

Environmental Parameters Cont'd

- Landfills
- Oil & Gas Pipeline Crossings
- O&G Wells
(Active, Dry Hole, Plugged, Permitted)
- Parks (Local, State, Federal)
- Wildlife Refuges/Wildlife Management Areas
- Previously-recorded Historic Resources
- National Register of Historic Places Sites
- Known Archeological Sites
- State Antiquities Landmark
- Cemeteries
- Natural Resources
- Prime/Unique Farmland Soils
- T&E Species Potential Habitat
- Critical Habitat
- Mapped Stream Crossings
- Irrigation/Drainage Canals
- 100-Year Floodplain
- National Wetland Inventory Features
- Encroachment of IBWC Boundary



Engineering & Environmental Evaluations	Traffic (not included in evaluation matrix)	Study Goals & Objectives (not included in evaluation matrix)
<ul style="list-style-type: none">• Quantitative ranking for 34 of 41 evaluation criteria (5 criteria had no impacts; 2 were qualitative)• Assigned a rank to raw data (numeric values) for 15 alternatives• Ranked each criterion in ascending order (1 for smallest impact to 15 for largest)• Duplicate numbers were assigned an average rank• Alternative Score = Sum of all rankings• Lower score indicates “lower” impacts (for the criteria evaluated)	<ul style="list-style-type: none">• Distinguishes differences across zones (not alternatives)	<ul style="list-style-type: none">• Distinguish differences across zones (not alternatives)• Qualitative assessment (Low, Medium, High)• Numeric value assigned for scoring (Low = 1; Medium = 5; High = 9)



■ Traffic Projections

- Southern and central corridor alternatives would provide better traffic relief on the surrounding roadway network and I-2
- Very little traffic in the northern study area through 2045

■ Meeting Study Goals & Objectives

- Weighted per TWG and public input on 2019 community surveys (congestion relief, connectivity, alternative routes, flooding)
- Southern and central corridor alternatives score higher

■ Priority Environmental Categories

- | | | |
|--------------------|-----------------------|-------------------------------|
| – Parcels impacted | – 100-year floodplain | – Agricultural |
| – Residential | – Wildlife Refuge | – Cemeteries |
| – Colonias | – NWI (Wetlands) | – Prime/unique farmland soils |

■ Engineering Parameters

- Too early to differentiate; did not factor into selections

Recommended Primary Corridor Alternatives – Alternatives Scoring



ALL CRITERIA

SOUTH	SCORE	RANK
S1	321.5	6
S2	301.0	4
S3	280.5	2
S4	304.0	5
S5	296.0	3
S6	326.5	7
SNL	233.0	1

CENTRAL	SCORE	RANK
C1	284.5	2
C2	291.5	3
C3	303.0	4
CNL	235.5	1

NORTH	SCORE	RANK
N1	211.5	3
N2	222.5	4
N3	178.5	2
NNL	170.5	1

XXX Recommended Primary Corridor Alternative

9 ENV PRIORITY CRITERIA

SOUTH	SCORE	RANK
S1	89.5	4
S2	99.0	7
S3	97.0	5
S4	88.0	3
S5	81.5	2
S6	98.0	6
SNL	72.5	1

CENTRAL	SCORE	RANK
C1	103.5	4
C2	98.5	3
C3	96.5	2
CNL	74.5	1

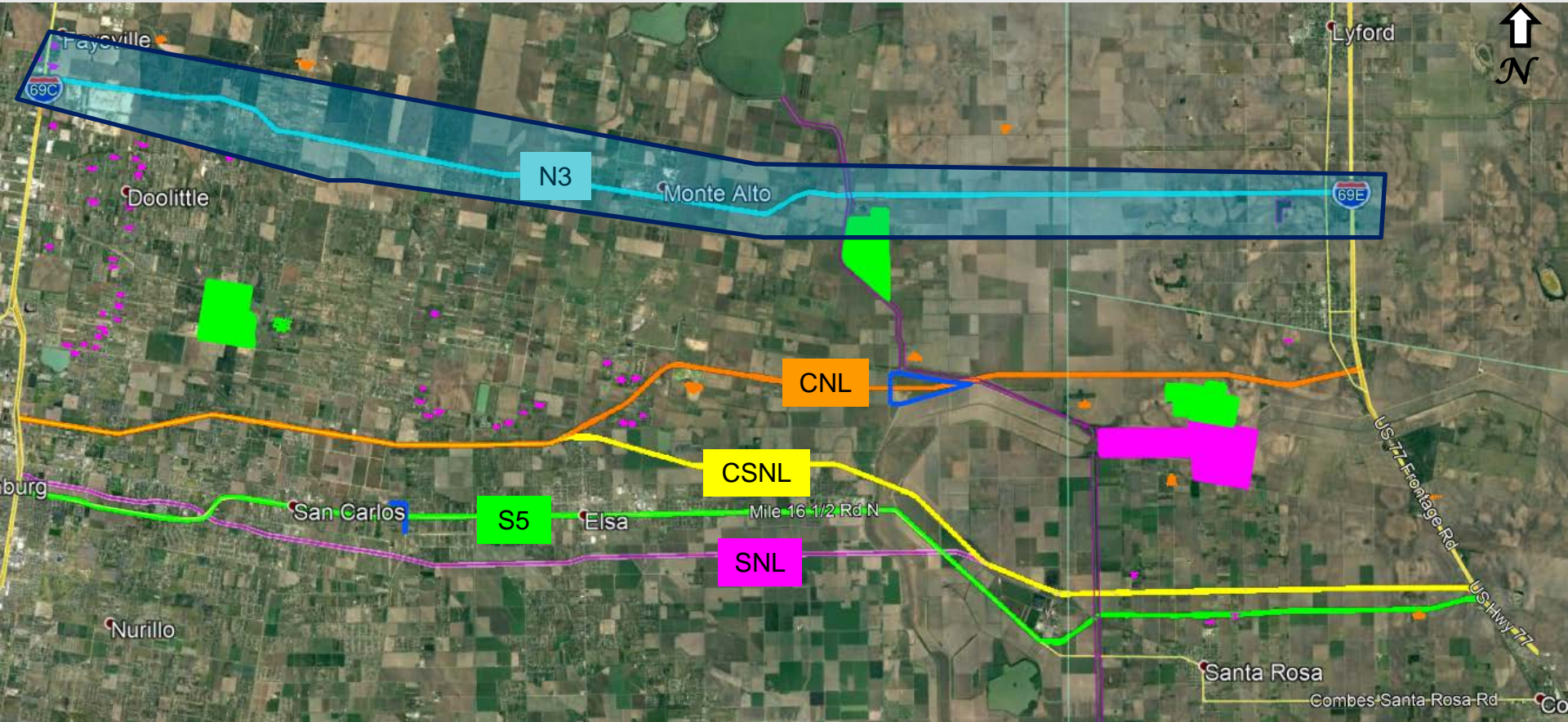
NORTH	SCORE	RANK
N1	56.0	3
N2	61.0	4
N3	35.5	1
NNL	49.0	2


Note: Lower ranking does not mean that an alternative is the best performing

Recommended Primary Corridor Alternatives




Note: Data supports eliminating Alternative N3, however alternative included for TWG and public review.
No further analyses conducted on N3



 National Wildlife Refuge (NWR)/
Wildlife Management Area (WMA)

 Colonias

 Hidalgo County Drainage District
2018 Bond Program Projects



Question & Answer Session





BREAK



5 Minute Timer



PRIMARY CORRIDOR ALTERNATIVES



■ 4 Primary Corridor Alternatives

- S5 (along SH 107); 3 new location alternatives (CNL, SNL, and CSNL)

■ Primary Corridor Alternatives Modifications

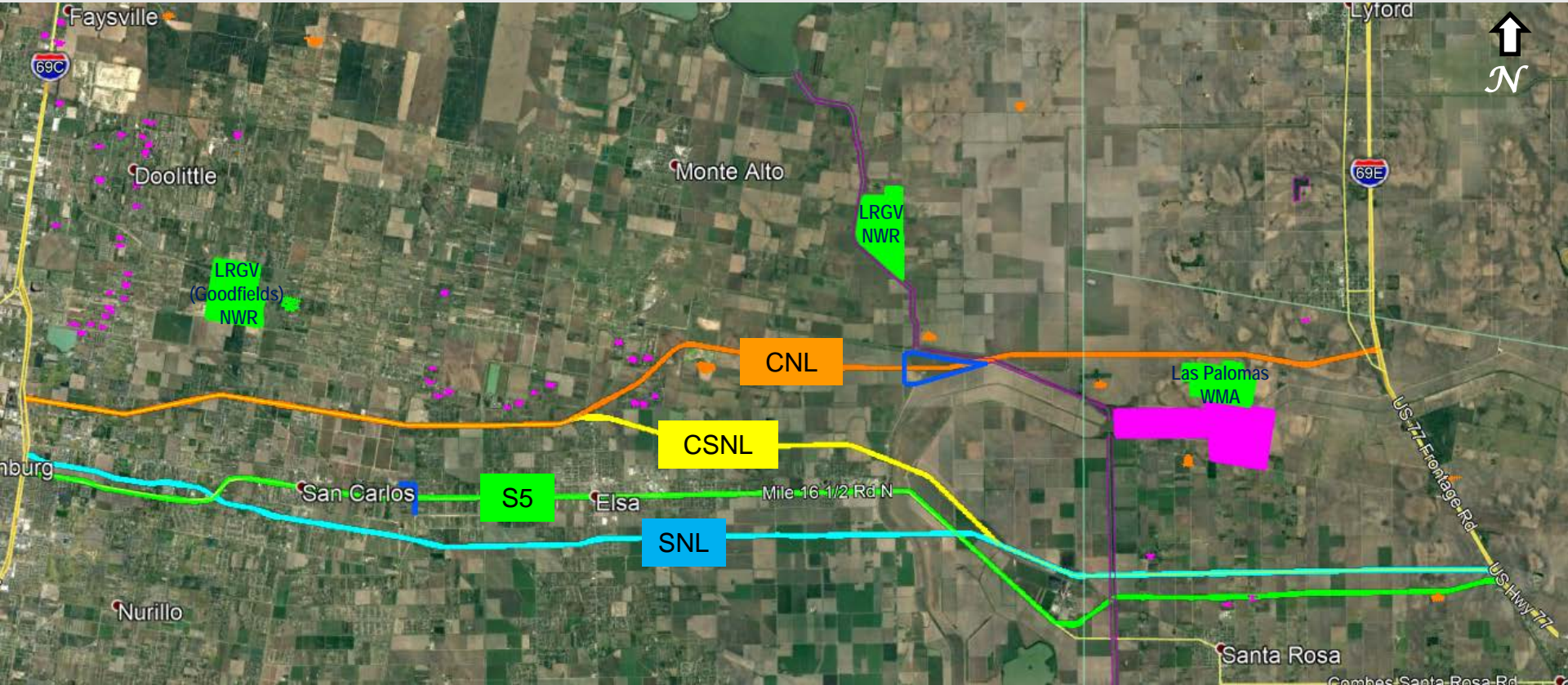
- 350 ft corridors expanded to 450 ft at major cross streets/potential interchanges


■ Evaluation of Modified Alternatives

- Develop 2025 & 2045 traffic projections
 - Determine proposed typical sections
- Revisit how the alternatives meet the G&Os
- Update engineering parameters
 - Develop more detailed cost estimates
- Conduct GIS analysis of environmental impacts within modified ROW



Recommended Primary Corridor Alternatives



 National Wildlife Refuge (NWR)/ Wildlife Management Area (WMA)

 Colonias

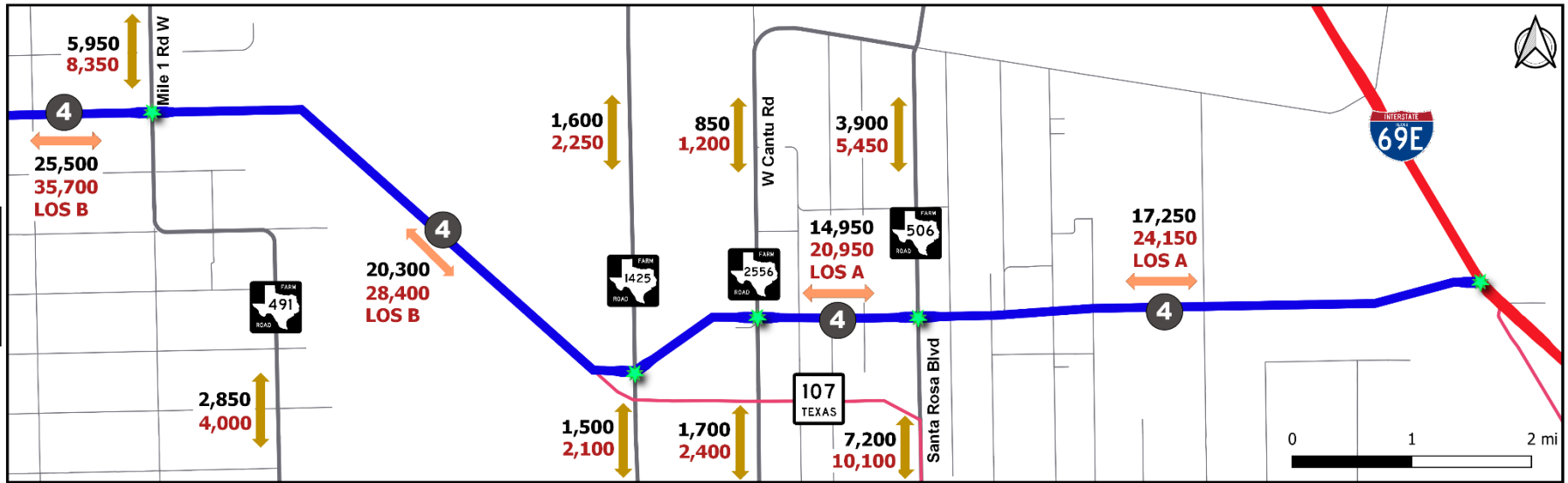
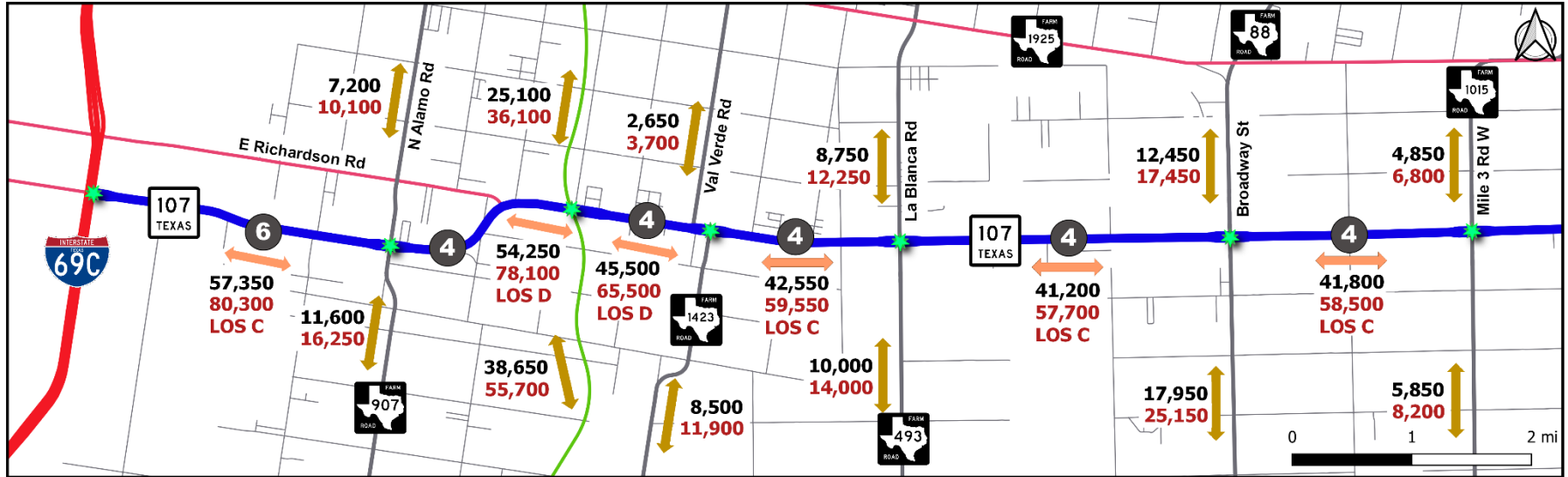
 Hidalgo County Drainage District 2018 Bond Program Projects



- Proposed interchanges chosen based on functionality and potential for future growth; spaced at least 1 mile apart
- Traffic from I-2 diverted to alternatives based on February 2020 I-69 Connector Origin-Destination Report
- Other traffic generating parallel roads:
 - SH 107, FM 1925 and East Richardson Road
- Historical traffic volumes considered in analysis
- Assumed Annual Growth Rate of 2.0%
- 2045 Annual Average Daily Traffic (AADT) was used as design year traffic for analysis

Alternative	Volume Percentage (%) Re-routed		
	I-2	SH 107	Other Parallel Facilities
S5	20	100	50
SNL	20	50	50
CNL	5	50	50
CSNL	5	50	50

Traffic Studies – Alternative S5 AADT and Level of Service (LOS) Results



LEGEND:

- Alternative S5
- Proposed Interchange Locations (S5)
- Proposed SH 68 Corridor
- Cross Streets
- Parallel Roads
- 10,000 - 2025 Estimated AADT
- 10,000 - 2045 Estimated AADT
- LOS A - 2045 Level-of-Service
- 4 - Number of Lanes



Alternative	WEST SIDE			EAST SIDE		
	2045 AADT	2045 No. of Mainlanes	2045 LOS	2045 AADT	2045 No. of Mainlanes	2045 LOS
S5	80,300	6	LOS C	28,400	4	LOS B
SNL	63,650	4	LOS C	25,400	4	LOS A
CNL	44,500	4	LOS B	8,700	4	LOS A
CSNL	44,500	4	LOS B	24,150	4	LOS A

Note:

- 1) All basic freeway segments operate at LOS D or better
- 2) LOS D is acceptable LOS for urban freeway facility per TxDOT's Roadway Design Manual, Revised July 2020 (Chapter 3, Section 6-Freeways)



Alternative	2045 AADT	Potential Typical Section
S5	80,300	
SNL	63,650	
CNL	44,500	
CSNL	44,500	

Note:

1. Frontage road configuration shown is tentative and will be based on traffic needs
2. Bicycle and pedestrian facilities will be considered during schematic development of the preferred alternative



Evaluation Criteria	Weighting* (%)	S5	SNL	CNL	CSNL
Alleviate traffic congestion on I-2	30%	2.7	2.7	0.3	0.3
Provide additional capacity & infrastructure to meet future population growth & travel demand	20%	1.8	1.8	0.2	0.2
Provide an additional hurricane evacuation route in the LRGV	25%	0.3	0.3	0.3	0.3
Improve mobility	10%	0.9	0.9	0.9	0.9
Enhance overall connectivity of the transportation network in the LRGV	15%	1.4	1.4	1.4	1.4
Weighted Score	100%	7.0	7.0	3.0	3.0

Note:

*Weighting % based on factors deemed important by the TWG and public input on the community survey (Congestion, Connectivity, Alternative Routes, Flooding, Safety)

Numeric value assigned for scoring (Low = 1; High = 9**) (**Yes = 1; No = 0**)

Alternatives Evaluation – Engineering Parameters



Evaluation Criteria	Unit of Measurement	S5	SNL	CNL	CSNL
Engineering Parameters					
Length of Facility	Miles	25.85	24.83	23.20	25.34
Proposed ROW Requirements (350 ft corridor; 450 ft at interchanges)	Acres	1,137	1,094	1,021	1,115
Estimated Construction Cost	\$(Millions)	241.9	234.8	218.3	238.1
Railroad Crossings	Number	2	1	1	1
Drainage Easement Crossings	Number	4	6	4	3
Transmission Line Crossings	Number	3	3	2	6
Wind Farms	Number	0	0	0	0

Alternatives Evaluation – All Environmental Criteria



Evaluation Criteria	Unit of Measurement	Alternative S5	Alternative SNL	Alternative CNL	Alternative CSNL
Human Environment Resources					
Parcels Impacted	Number	1,093	453	252	289
Potential Impacted Properties					
Residential	Acres	123	92	65	81
Agricultural	Acres	460	843	816	913
Commercial/Industrial	Acres	94	6	10	10
Institutional (Schools, Churches, Hospitals, Museums)	Acres	24	8	0	0
Transportation	Acres	352	34	27	30
Parks (Local, State, Federal)	Acres	0	0	0	0
Undeveloped	Acres	84	112	106	83
Community Impacts					
Neighborhoods Bisected	Number	6	7	1	1
Colonias	Number	27	9	10	9
Hazardous Materials Impacts					
Potential Hazardous Materials Sites	Number	26	0	0	0
Oil & Gas Pipeline Crossings	Number	7	9	10	8
Oil & Gas Wells					
Active	Number	0	0	1	1
Dry Hole	Number	0	0	0	0
Plugged	Number	1	0	0	1
Permitted	Number	0	0	1	1
Landfills	Acres	0	0	0	0
Cultural Resources					
Previously-recorded Historic Resources	Number	0	0	0	0
NRHP Sites	Number	0	0	0	0
Known Archeological Sites	Number	0	0	0	0
State Antiquities Landmark	Number	0	0	0	0
Cemeteries	Number	0	0	0	0
Natural Resources					
Wildlife Refuges/Wildlife Management Areas	Acres	4.34	3.7	9.12	3.7
Prime/Unique Farmland Soils	Acres	691.32	727.07	805.04	750.04
Threatened/Endangered Species Potential Habitat	Low/Med/High	Low	Low	Low	Low
Critical Habitat	Acres	0	0	0	0
Mapped Stream Crossings	Number	0	0	0	0
Irrigation/Drainage Canals	Number	42	47	34	46
100-Year Floodplain	Acres	253.91	297.37	385.5	332.67
National Wetland Inventory Features	Number	26	27	27	35
National Wetland Inventory Features	Acres	8.57	7.77	14.72	9.94
Encroachment of IBWC Boundary	Acres	21.99	30.4	30.52	18.38

Alternatives Evaluation – Priority Environmental Criteria



Evaluation Criteria	Unit of Measurement	Alternative S5	Alternative SNL	Alternative CNL	Alternative CSNL
Human Environment Resources					
Parcels Impacted	Number	1,093	453	252	289
Potential Impacted Properties					
Residential	Acres	123	92	65	81
Agricultural	Acres	460	843	816	913
Community Impacts					
Colonias	Number	27	9	10	9
Cultural Resources					
Cemeteries	Number	0	0	0	0
Natural Resources					
Wildlife Refuges/Wildlife Management Areas	Acres	4.34	3.7	9.12	3.7
Prime/Unique Farmland Soils	Acres	691.32	727.07	805.04	750.04
100-Year Floodplain	Acres	253.91	297.37	385.5	332.67
National Wetland Inventory Features	Number	26	27	27	35
National Wetland Inventory Features	Acres	8.57	7.77	14.72	9.94



■ Traffic Projections

- Alternative S5 is anticipated to carry the highest traffic volumes
- Alternative SNL is anticipated to carry the 2nd highest traffic volumes

■ Meeting the Study Goals & Objectives

- Alternatives S5 & SNL rank #1

■ 9 Priority Environmental Criteria

- Alternative SNL ranks #1
- Alternatives S5 ranks #2

■ Engineering Parameters

- Alternative CNL ranks #1
- Alternative SNL ranks #2

TOTAL (ALL CRITERIA)

ALT.	SCORE	RANK
S5	105.0	4
SNL	93.0	1
CNL	94.5	2
CSNL	97.5	3

TOTAL (PRIORITY ENV CRITERIA)

ALT.	SCORE	RANK
S5	62.5	2
SNL	53.5	1
CNL	64.5	3
CSNL	69.5	4

Environmental Criteria	S5	SNL
Parcels impacted	1,093	453
Colonias	27	9
Residential	123	92



BREAK



5 Minute Timer



INTERACTIVE SESSION





1. What is the most important constraint in your community that should be avoided?
2. What is important in the typical section?
 - a) Pedestrian facilities?
 - b) Bicycle/shared use paths?
 - c) Wildlife crossings?
3. Did we miss anything?
4. With regards to conducting open house no. 2 as a virtual public meeting (VPM)
 - a) Are there internet access issues in Cameron County that would prevent doing only a VPM? Should we also consider an in-person option?
 - b) Hidalgo County?

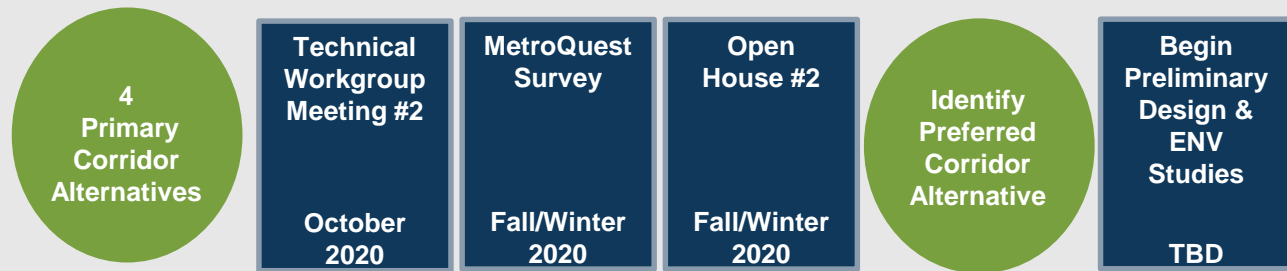




NEXT STEPS



- **Complete 2nd Round of Public Meetings**
 - MetroQuest Survey
 - Present Preliminary & Primary Corridor Alternatives
 - Seek Input on Recommended Corridor Alternative
 - Open House #2
 - Present Preliminary & Primary Corridor Alternatives
 - Seek Public Input on Recommended Corridor Alternative
- **Identification of Recommended Corridor Alternative**
 - Establish Purpose and Need
 - Prepare NEPA Classification Letter





- Contact as needed with any questions:

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