IH 35E
Proposed Improvements

August 2009 Stakeholder Presentations

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Agenda

- Welcome and Introductions
- Schematic Design and Environmental Documentation
- Outcome of State Legislative Session
- Options for Project Financing
- Construction Financing & Phasing Plan
  - Assumptions
  - Total Project Costs
  - Results of Financial Modeling
  - Ideas to Improve Project Viability
- Need to Develop Corridor Champion and Delegation
  - Need to Educate Elected Officials at all Levels
- Next Steps

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Options for Project Financing

- **Obtain NEPA Clearance ASAP**
- **Begin ROW Acquisition in Priority Areas**
- **Options Include:**

1. Build Project Using Pay As You Go Method
   - Select Priority Segment to Begin Construction
   - Apportion $535 million RTR to Right of Way and Construction
   - Develop Priority Segment Through Either:
     - Design-Build
     - Develop 100% PS&E and Use Design-Bid-Build
   - Develop Remaining Segments When Congress and Legislature Provide New Revenue Source
2. Request Legislature for Concession CDA Authority
   - Develop Corridor Delegation and Educate State Elected Officials
   - 2010 - Pursue Right of Way Acquisition in Priority Areas
   - 2011 – 2012 Procurement and Award
     - Middle Section is Priority
     - South Segment Could be Included as Option
     - Pursue Cost Saving/Revenue Enhancement Measures

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Options for Project Financing

- **Options Include:**

3. Request Legislature for Design-Build-Finance-Operate CDA Authority
   - Contractor Earns Payment During Construction and Receives Annual Payment Based on Road Availability and Performance Measures
     - Could Include Traffic Volumes in Payment Mechanism
   - TxDOT/Region Retains Revenue Risk
   - 2010 - Pursue Right of Way Acquisition in Priority Areas
   - 2011 – 2012 Procurement and Award
     - Middle Section is Priority
     - South Segment – Continue to evaluate options
     - Pursue Cost Saving/Revenue Enhancement Measures
     - Pursue Interim Managed Lanes System to Provide for Revenue Backstop
4. Use Pass-Through Finance Authority
   - TxDOT Has Authority to Use Private Pass-Through Finance Agreement
   - Would Be Very Similar to DBFO-Availability Payment Contract

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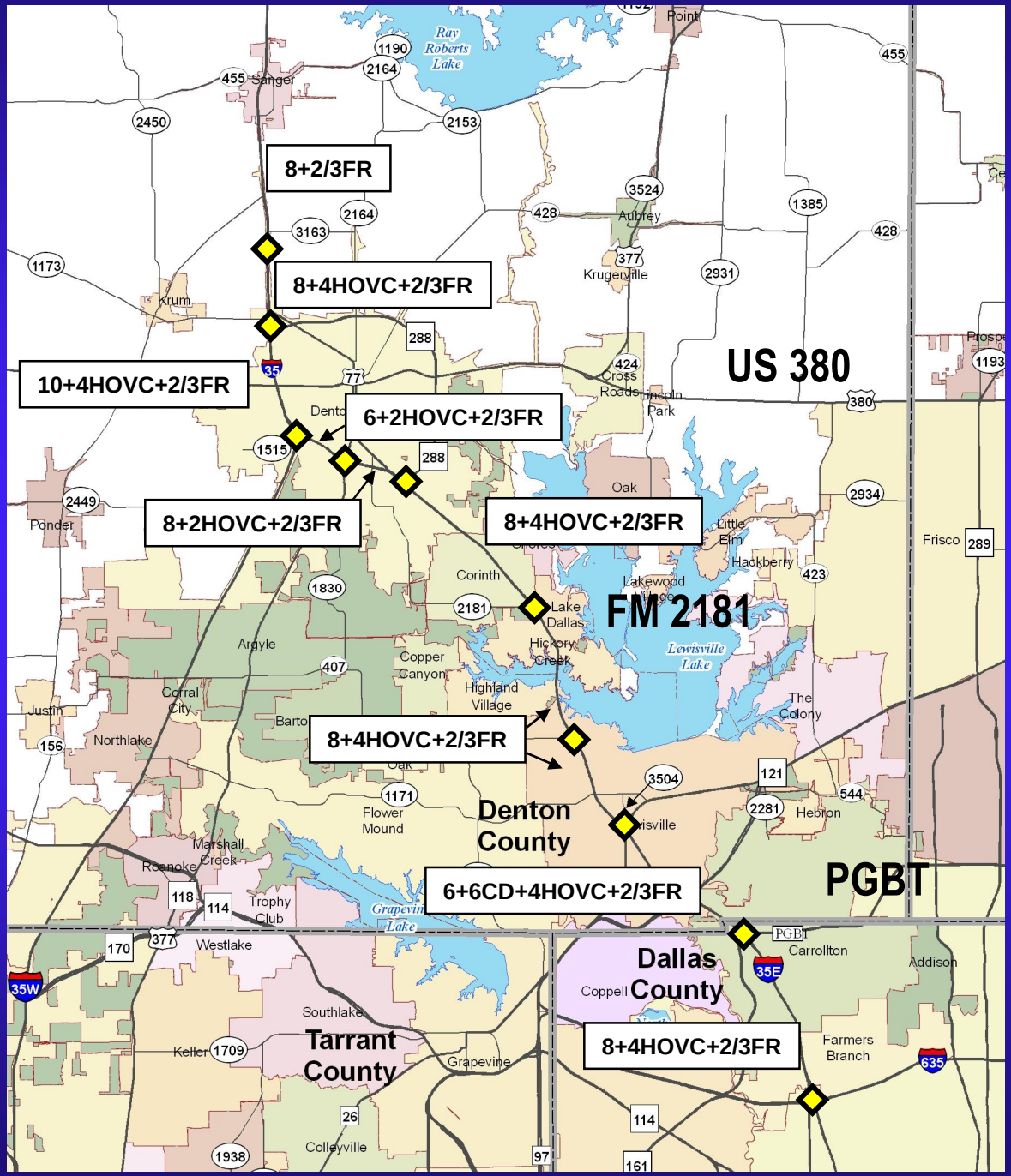
Project Overview & Limits

SOUTH MIDDLE NORTH



Note: 2/3FR indicates 2 lane frontage roads except between exit and cross street, where 3 lanes are provided.

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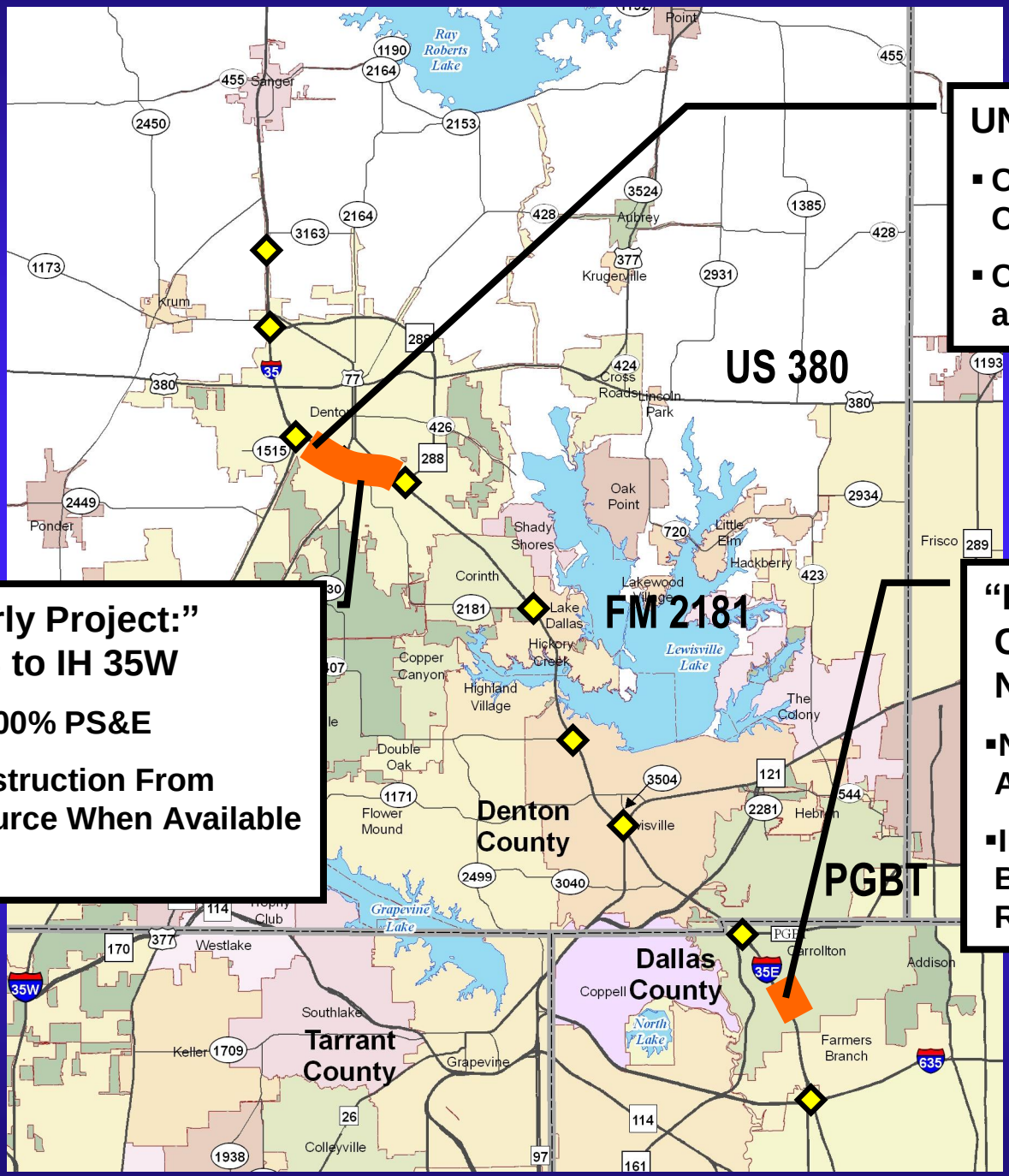
Need for Early PS&E Development

SOUTH MIDDLE NORTH



UNT Pedestrian Overpass

- Construct Prior to Stadium Opening
- Concept Fits with Existing and Proposed IH 35E

"North Early Project:" Loop 288 to IH 35W

- Develop 100% PS&E
- Fund Construction From Future Source When Available

"Beltline Road Project:" Crosby Road to Northside Drive

- Need for Multiple Railroad Agreements
- IH 35E Main Lanes Must be Built Before Frontage Road Road/RR Grade Separation

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Assumptions

Assumptions:

1. **Capital Costs**
   - Main lanes and Frontage Roads Removed and Replaced
   - $652M Total Cost of Right of Way to be acquired
   - Engineering: 6 % Design, 4% Construction QA/QC, 2.5% Independent Engineer
   - 15% Contingencies above unit rates
   - Additional 20% risk adjustment to convert the costs from a DBB analysis to a DBFOM (Concession) analysis.
2. **Operating Costs**
   - Routine Maintenance (1) – ROW to ROW
   - Lifecycle Maintenance (1) – ROW to ROW
   - Toll Collection Costs Based on IH 635 TSA w/ NTTA

Note (1): Maintenance costs are based on TxDOT CDA Standards which are higher (cost More) than the base TxDOT standards

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Assumptions

Assumptions:

3. Level II Traffic and Revenue

- RTC Managed Lane Policy
- Managed Lane Access Based on Schematic
- NCTCOG Population Forecasts Based on TSDC 0.5 Migration Scenario through 2030
- Modified Demographic Scenario Developed – Adjusted NCTCOG Forecast Upward by 4.0% in 2015 and 16% in 2030
- Scenario for Concession CDA Analysis – "Modified" Alternative:
  - 330 Revenue Days Per year
  - Traffic Growth Beyond 2030: 3.0%, reducing by 0.5% every 5 Years, with 1.0% constant beyond

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Total Project Costs (August 2009)

PROJECT SEGMENT ($m)	Design-Build Costs (1)	ROW Costs (3)	Total Costs (1,2)
South	**578**	**172**	**750**
Middle	**1,917**	**338**	**2,255**
North Total (Includes North Early and Widening)	**1,179**	**142**	**1,321**
North Widening (Separate)	32	3	35
North Early (Separate)	373	71	445
Total Project Cost	**3,674**	**652**	**4,326**

Note 1: Design-Build costs include design, construction, utility relocations, CEI, contingencies, etc. in real dollars ($2009)

Note 2: Total Costs include ROW

Note 3: Right of Way Only, including contingencies

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O&M and Lifecycle Costs

Operations & Maintenance (Includes Developer Toll Operations)	Average annual cost per lane mile (2009$)
Managed Lanes – Routine Maintenance	12,310
Managed Lanes – Toll & HOV Operations	57,566
General Purpose Lanes – Routine Maint.	14,615
General Purpose Lanes – Routine Oper.	14,138
Frontage Lanes – Routine O&M	14,898
Lifecycle Maintenance	**Average annual cost per lane mile (2009$)**
Managed Lanes	54,725
General Purpose Lanes	41,969
Frontage Lanes	13,201

NTTA Back Office Costs	COSTS PER TRANSACTION
Toll Collection Costs (Public Model) (1)	$0.045 + 3.75% * Toll
Toll Collection Costs (Design-Build Finance Model) (1)	$0.045 + 3.75% *Toll

Note 1: Fixed Fee ($0.045 in 2010$) increases at 2.0% annually

reset every 2 years

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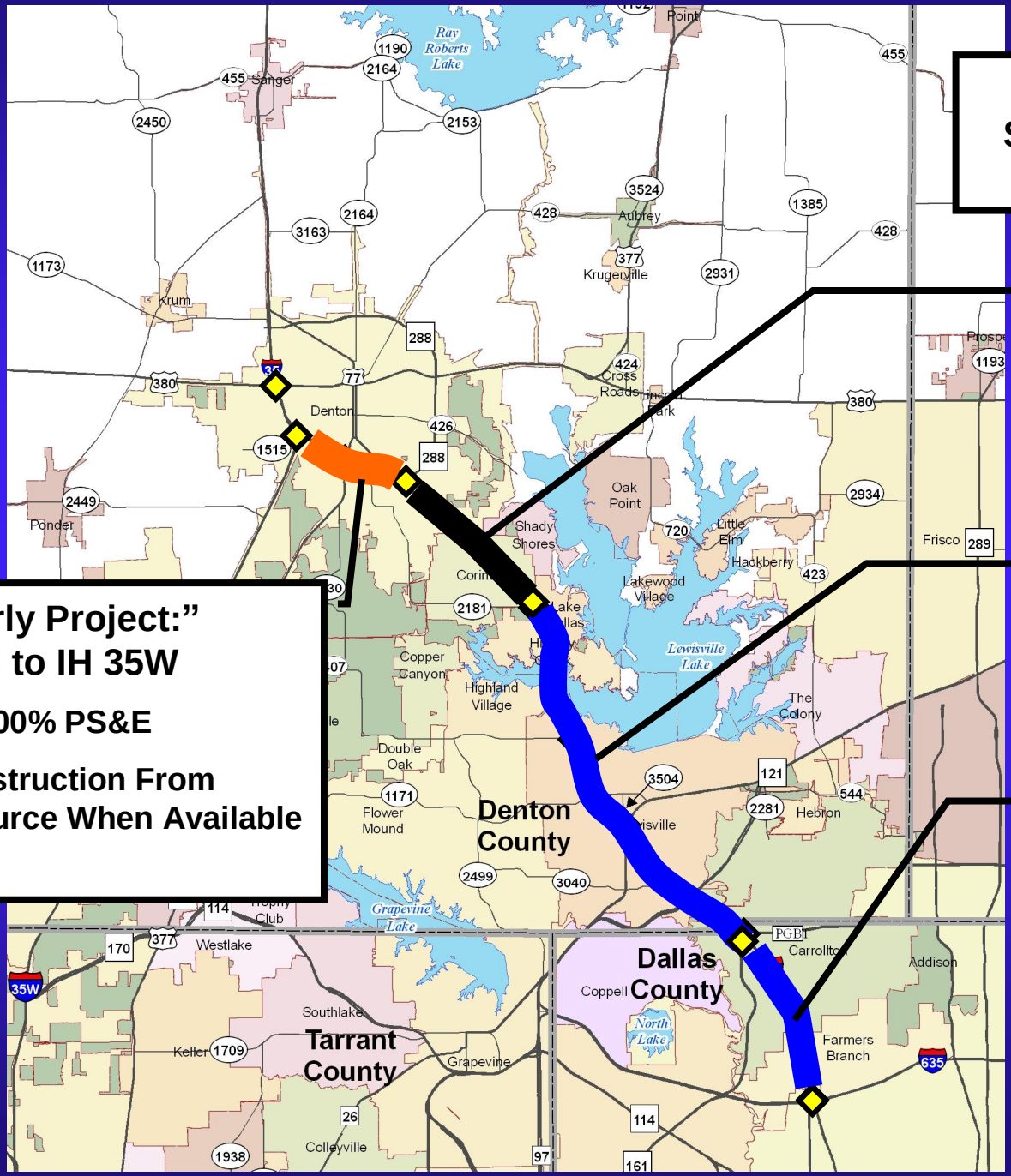
Proposed Base Case – Concession CDA

SOUTH MIDDLE NORTH



South and Middle Section Completed on One CDA Contract

North: Temporary Widening by 2017

Middle: Open by 2017

South: Open by 2017

"North Early Project:" Loop 288 to IH 35W

- **Develop 100% PS&E**
- **Fund Construction From Future Source When Available**

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Financial Analysis

Proposed Base Case – Concession CDA

Input ($Billions – Base Date 2010[4])	South		Middle		M+S+North Widening
	Low [1]	High [2]	Low [1]	High [2]	
Revenue	1.77	1.89	2.50	2.76	4.65
Toll Collection Costs	(0.10)	(0.10)	(0.14)	(0.15)	(0.25)
Capital Costs	(0.70)	(0.68)	(2.07)	(2.06)	(2.76)
O&M	(0.14)	(0.14)	(0.25)	(0.25)	(0.37)
Lifecycle Costs	(0.12)	(0.12)	(0.29)	(0.29)	(0.46)
Subsidy	**(0.33)**	**(0.27)**	**(1.57)**	**(1.50)**	**(1.81)**
Less RTR Funds	**0**	**0**	**0.55**	**0.55**	**0.55**
Additional Funding Requirement	**(0.33)**	**(0.27)**	**(1.02)**	**(0.95)**	**(1.26)**

Notes:

(1) Low Represents pessimistic scenario where volumes are constrained due to no improvements in adjacent segments

(2) High Represents optimistic scenario where volumes are unconstrained assuming improvements per the MTP in adjacent segments

(3) Subsidy is the total payment made to developer during construction assuming toll revenues are paid to developer during the CDA Term

(4) All Figures Presented in Billions of Dollars discounted at 5% to 2010. Assumed delay to 2017 for start of Operations leads to substantially higher future costs.

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Cost Savings/Revenue Enhancement

ID	Cost Savings/Revenue Enhancement Idea	Functionality Impact	Violate Design Criteria	NEPA Risk	Policy Risk	Estimated Impact to Funding Gap (Applied to Concession Base Case) (2010 $M)	Comments
Suggested Cost Savings Measures							
1	Shorten the Middle section to at least north of Lake Lewisville.	-	O	O	O	$104	Evaluate the proper breakpoint at which it could be transitioned between middle and north interface to delay the full middle.
2	Active traffic management - running hard shoulders on the General Purpose Lanes and Managed Lanes. Concept is to start with 3-2-2-3 and run as a 3-3-3-3, 4-2-2-4, 4-3-3-4 . This could be considered as an interim or an ultimate solution.	-	-	O	O	TBD	Explore with FHWA on how they would incorporate it into a new project. Is it to build less now and manage it or have flexibility for future usage opportunities
3	Perpetual pavement/flexible pavement.	O	O	O	O	$85	Compares traditional asphalt with a perpetual design
4	Reduce subgrade/PVR treatment.	O	O	O	O	$47	Results in a thinner section of pavement
5	Operations and Maintenance for General Purpose Lanes and Frontage Roads remain with TxDOT. (Responsibility or Budget).	O	O	O	O	$830	$325 Routine and $510 Life Cycle for S, M, and N using Concrete
6	Revise South Section cross section - elevated Managed Lanes between General Purpose Lanes and Frontage Roads. Include an alternative for the South Section to be included in the NEPA process.	+	O	-	-	$40	Net savings for constr.and ROW. T&R hit of $142 and $1.1B w/ 1R.
7	Construct ML on outside edge of mainlanes. (between GP lane and FR lanes). Utilize existing GP lane pavement until construction is necessary. Combine with optimization of CD, Managed Lanes, Ramps etc. in this area.	+	O	-	-	$164	Net savings for constr. And ROW. T&R hit of $42 and $350 w/ 1-1.

Notes:

+ = Positive Impact/Risk O = No Impact/Risk - = Negative Impact/Risk

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Cost Savings/Revenue Enhancement

ID	Cost Savings/Revenue Enhancement Idea	Functionality Impact	Violate Design Criteria	NEPA Risk	Policy Risk	Estimated Impact to Funding Gap (Applied to Concession Base Case) (2010 $M)	Comments
8	Remove/Defer the frontage roads across Lake Lewisville.	-	O	O	-	$17	
9	Remove/Defer the northbound sidewalk and bicycle trail.	-	O	O	-	$1	Would need CORP approval
10	Defer/Utilize the existing mainlane bridges across the Lake.	O	O	-	-	$123	Pick a point in time to build future bridges
11	Reduce the length of the project. End project south of Lake Lewisville.	-	O	O	-	$436	Project is shorter by 4 miles
12	Reduce Design Speed. 70 mph vs. 60 mph. Allow the use of existing infrastructure.	O	-	O	O	TBD	Idea may not garner FHWA support
13	Eliminate or defer direct connectors that do not exist today (SH 121 SB-WB, SB-EB, WB-NB, EB-NB)	-	O	O	-	$34	Deferred construction may be funded by other sources
14	Eliminate wishbone connections to/from the Managed Lanes.	-	O	O	-	$78.6	Mostly defer until future traffic warrants their inclusion by 2030. Middle T&R $8 by 2030 and $$47 delete. South T&R $30 by 2030 and $275 delete. Operational Concerns.
15	Defer wishbone connections to/from the Managed Lanes.	-	O	O	-	See 14 Above	Would need to be tied to performance and available funding.
16	Revise Managed Lanes access to the General Purpose lanes instead of the frontage roads. Re-evaluate/defer Managed Lanes ramps.	-	O	O	-	See 14 Above	A few locations could be adjusted

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17	Eliminate the Collector-Distributors. Consider alternative transition from the South Section to the Middle Section through the PGBT.	-	O	-	-	$117	The revenue hit in the long run may be greater than the capital cost savings
18	Defer the Collector-Distributors. Consider alternative transition from the South Section to the Middle Section through the PGBT.	O	O	O	-	$16	One-Half of the CD system gets built. Fund from future funding source.
19	Convert the PGBT/SH 121 Collector-Distributors to Managed Lanes. Remove proposed centerline Managed Lanes. Utilize existing pavement for GP lanes.	-	O	O	-	$182	Need to evaluate which movements are tolled and not tolled
20	Optimize the CD system from the current design schematic.	O	O	O	O	$0	No identified optimization at this time
21	Reduce frontage roads section to 2-lanes plus auxiliaries at all locations.	O	O	O	O	$8.6	Limited new locations could be reduced to 2 lanes from prior reductions
22	Minimize Cross Street Intersection Construction	O	-	O	-	$34	Keep several as is w/ design exceptions
23	Defer Cross Street Interchange Reconfiguration.	O	O	O	-	See 22 Above	
24	Add Managed Lanes access to/from the IH 635 Project. Wishbone ramps from elevated DCs south of IH 635. Wishbone ramps from DCs north of IH 635. Local Access to Harry Hines.	+	O	O	O	$50	Cost to build the connectivity to 35E to the south and improves 635 connections

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25	**Remove PS&E elements (Beltline Road Reconstruction).**	O	O	O	O	$57	**$57 of RTR is attributed to Carrolton's portion. Bid the RR part separately.**
26	**Remove cross street cost beyond the IH 35E ROW.**	O	O	O	O	$10	Local governments would be responsible for intersection transitions.
27	**Risk share analysis. Reduce the amount of risk that is transferred to the Developer.**	O	O	O	O	$100	Up to 5% DB Costs
28	**Maximize ability for Right of way acquisition to occur by - TxDOT (Dallas), TxDOT (Austin), County/City or CDA**	O	O	O	O	Unknown	Suggestion would improve construction schedule therefore would provide for cost savings.

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Cost Savings/Revenue Enhancement

ID	Cost Savings/Revenue Enhancement Idea	Functionality Impact	Violate Design Criteria	NEPA Risk	Policy Risk	Estimated Impact to Funding Gap (Applied to Concession Base Case) (2010 $M)	Comments
Suggested Revenue Enhancement Measures							
29	Request Additional Funding from Transportation Partners/Local Governments	O	O	O	O	Unknown	
30	Toll the proposed SH 121 Connectors.	O	O	O	O	$222	
31	Toll the Collector-Distributor System	-	O	O	-	$455	ML Movements $350, Toll Only $105 all using ML Rate. Using NTTA rate total for 30 and 31 would be $250.
32	Eliminate the HOV discount before 2025.	O	O	O	-	$45	Middle $31 and South $14
33	Implement HOV 3+ Eligibility for HOV Discount.	O	O	O	-	$33	Middle $23 and South $10
34	Implement Switchable TollTag for HOV Declaration	O	O	O	O	Unknown +	Eliminates Declaration Lanes; Improves Enforcement
35	Reduce or delay the construction of the full number of GP lanes. Utilize a 3-2-2-3 section.	O	O	O	-	+ $30 O&M +$496 M&S	T&R deferred to 2030 for Middle $266 w/ %30 Toll rate/mile premium. South $140 w/ 20%.
36	Implement an Interim 2 Lane Reversible Managed Lane System in the South Segment	O	O	O	O	TBD	
37	Implement an Interim ContraFlow Managed Lane System in the North Segment	O	O	O	O	Positive	Fixed cost = $21.5, Moveable Cost = TBD. T&R Middle $140. North $605. Separate Env. Document

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Next Steps

1. **Continue NEPA Process**
   a. Environmental Assessments Approval
   b. Public Hearings
   c. FONSI by late 2009/early 2010

2. **Continue Project Development**
   a. Begin PS&E for Early Segments (Need RTR Funding Approval)
   b. Finalize Right of Way Mapping
   c. Identify Existing Utilities
   d. Perform Remaining Geotechnical Investigation
   e. Obtain USACE Permits

3. **Corridor Stakeholder Discussions**
   a. Develop Consensus on Financing and Project Delivery
   b. Suggested Stakeholder Discussions with State Elected Officials

4. **TxDOT To Follow Stakeholder Direction:**
   a. Cost Savings and Revenue Enhancement Measures
   b. Exploration of Interim Managed Lanes Concepts
   c. Continued Due Diligence on Financing

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