



IH 35E Proposed Improvements

August 19, 2009 Elected Official
Presentations





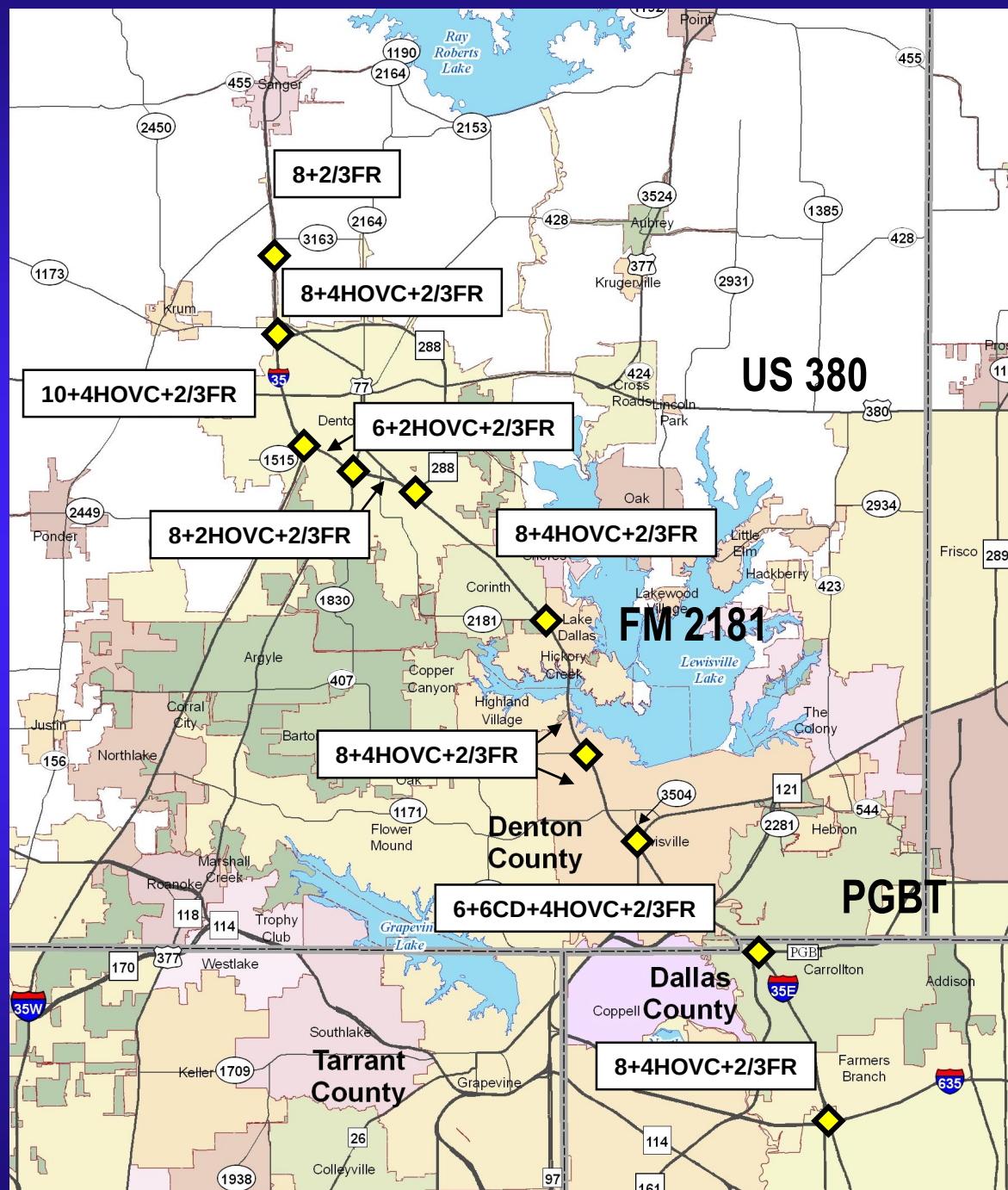
Agenda

- **Welcome and Introductions**
- **Planning and Development**
 - Schematic Design and Environmental Documentation
- **Outcome of State Legislative Session**
 - Options for Project Financing
- **Construction Financing & Phasing Plan**
 - Cost Estimating
 - Revenue Estimates
 - Financial Modeling
- **Next Steps**
- **Questions, Comments and Concerns**



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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Planning and Development

Planning Milestones

- Schematic Approval
- Environmental Assessment Approval
- Public Hearings
- FONSI

Development Milestones

- Begin Right of Way Acquisition
- Identification of Construction Funding
- Detailed Plans/PS&E Development
- Begin Construction
- Begin Operations



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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
5. Local Authority to Procure CDA
 - NTTA, County or NCTCOG/RTC



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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



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

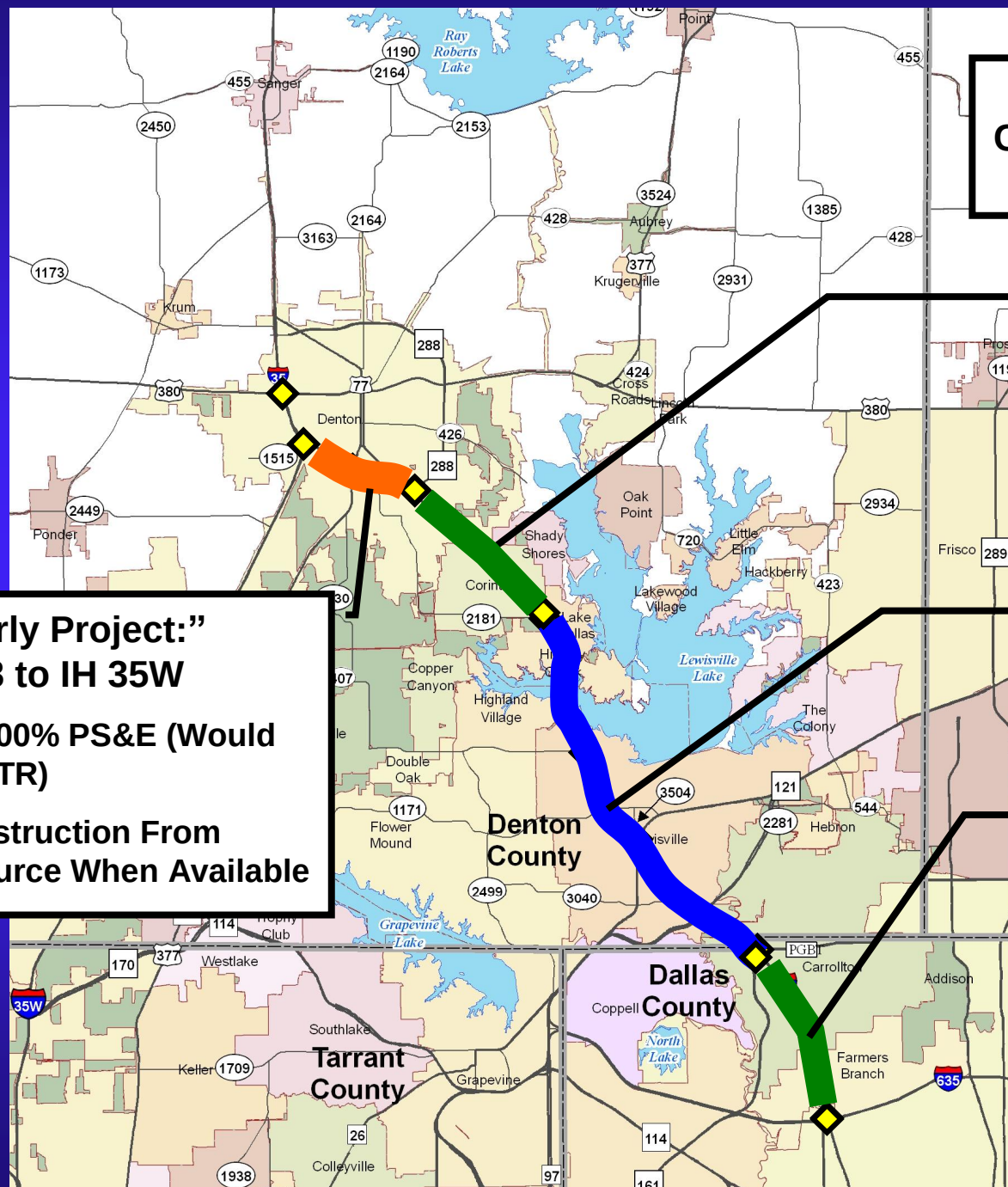
NTTA Back Office Costs	COSTS PER TRANSACTION
Toll Collection Costs (Public Model) (1)	$\$0.045 + 3.75\% * \text{Toll}$
Toll Collection Costs (Design-Build Finance Model) (1)	$\$0.045 + 3.75\% * \text{Toll}$

Note 1: Fixed Fee (\$0.045 in 2010\$) increases at 2.0% annually
reset every 2 years



Possible Base Project

SOUTH
MIDDLE
NORTH



**Middle Section
Completed on One DBFO
Contract**

**North:
Temporary
Widening**

Middle

**South Interim
Managed Lanes**

**“North Early Project:”
Loop 288 to IH 35W**

- Develop 100% PS&E (Would Require RTR)
- Fund Construction From Future Source When Available



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Financial Modeling

Results of Financial Modeling

1. Focus on Delivery of the Middle Segment

- Uses \$535 Million RTR
 - Managed Lane Revenue
 - Construction/Right of Way Costs
 - Anticipated O&M
- ➔ Results in Funding Gap

Funding Gap Closure Workshop:

1. Workshops Held July 1 & 2, and July 20

2. Developed 51 Different Ideas for Cost Savings or Revenue Enhancement, such as:

- Design Changes
- Toll Reconfigurations
- Staging or Deferrals

3. Each Idea Evaluated for:

- Policy Risk
- NEPA Risk
- Functionality Impact
- Violation of Design Criteria

4. Estimated Impact to Funding Gap (\$)



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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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Conclusion

Note Stakeholder Presentations Including Detailed Financial Modeling Results available at:

<http://www.keepitmovingdallas.com/35E>

Are there any:

- Questions
- Concerns
- Comments



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Appendix C

Results of Financial Analysis and Summary of Cost Savings/Revenue Enhancement Ideas



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

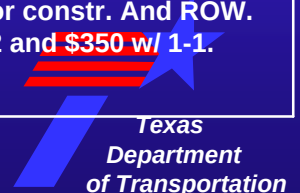
ID	Cost Savings/Revenue Enhancement Idea	Functionality Impact	Violate Design Criteria	NEPA Risk	Policy Risk	Estimated Impact to Funding Gap (Applied to Concession Base Case) (2010 \$M)	Comments
Suggested Cost Savings Measures							
1	Shorten the Middle section to at least north of Lake Lewisville.	-	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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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
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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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
25	Remove PS&E elements (Beltline Road Reconstruction).	O	O	O	O	\$57	\$57 of RTR is attributed to Carrollton'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
<i>Suggested Revenue Enhancement Measures</i>							
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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