

Review of I-10 Segment 2 (Downtown) Expansion Proposal in Draft El Paso MPO MTP

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Outline

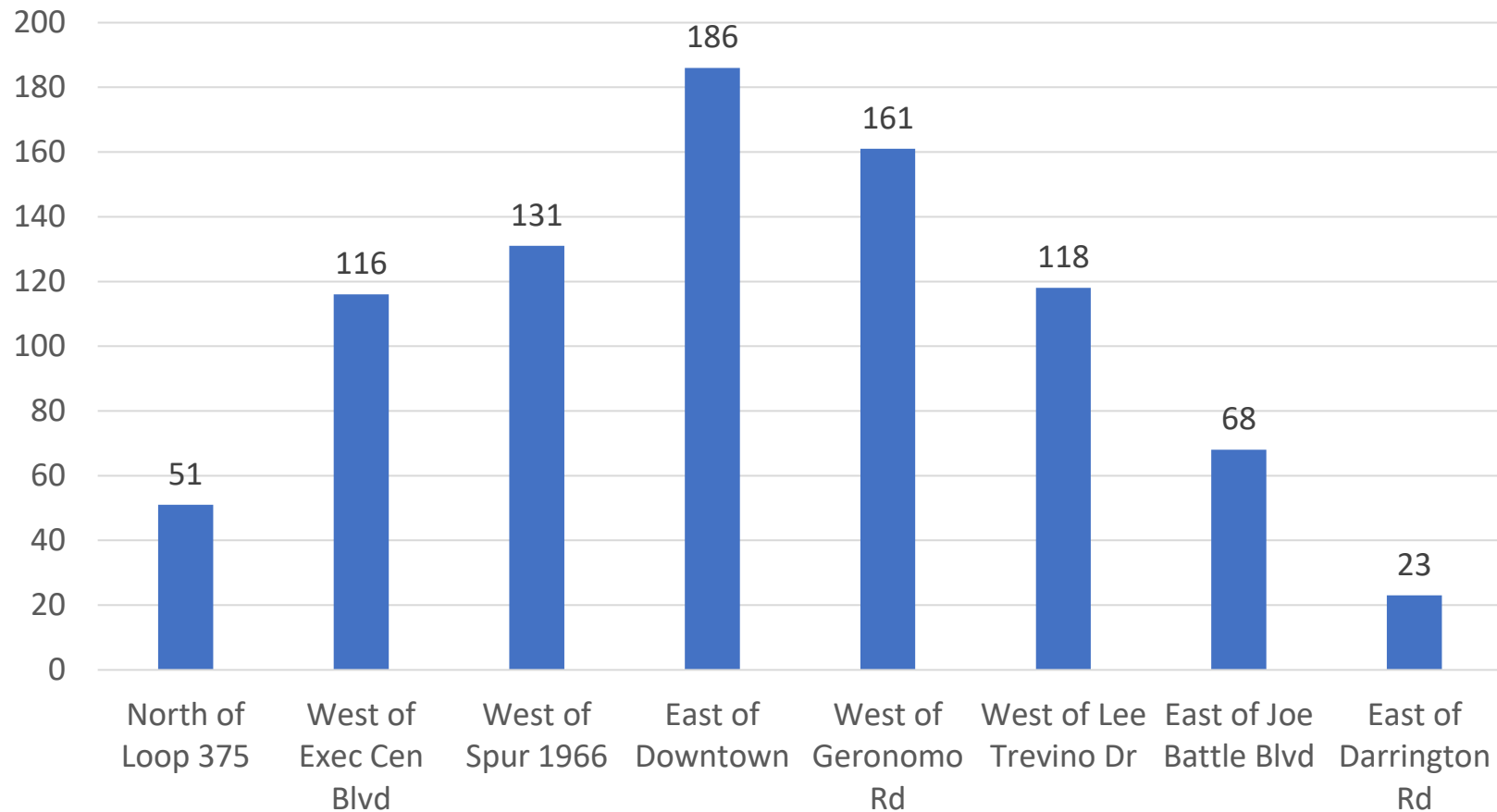
- Realistic expectations of I-10 expansion
- I-10 Segment 2 recommendations

Realistic expectations

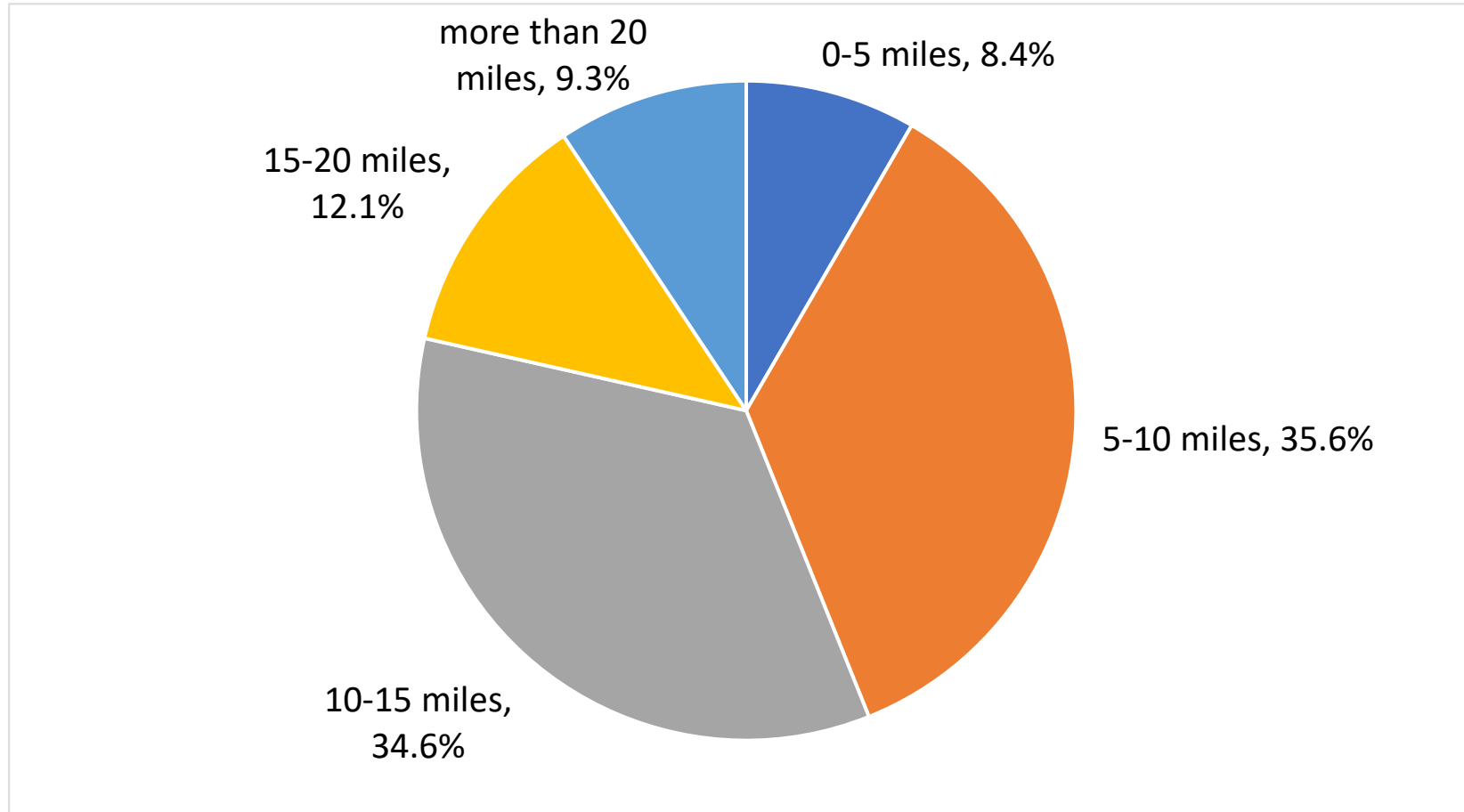
- Urban freeway expansion has failed to eliminate congestion anywhere in the U.S.
- In the El Paso region 1993-2017
 - 45% increase in population
 - 102% increase in freeway lane miles
 - 157% in congestion delay
- TxDOT has largely given up on trying to eliminate congestion in free general-purpose lanes in the largest urban areas – instead focusing on building managed lanes

Congestion is caused by local traffic

Daily traffic volume (thousands)

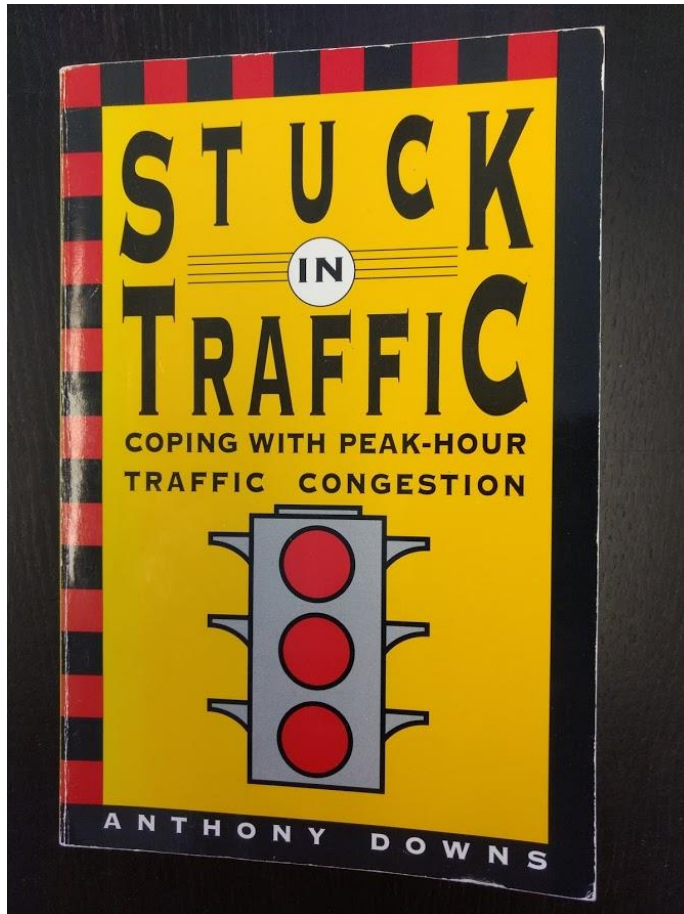


Trip lengths for I-10 Segment 2 entrance and exit ramps in the afternoon peak period



“Triple convergence”

Anthony Downs 1992



- Peak period traffic congestion is inevitable because local drivers will compensate for capacity increases by:
 - 1) shifting routes
 - 2) shifting time of travel
 - 3) shifting travel mode

TxDOT/El Paso MPO Transportation model overestimates benefits of expanding I-10

- Treats each roadway segment as independent because it still relies on 40-year-old static traffic assignment (STA) algorithm
- Does not properly account for bottlenecks and delays behind bottlenecks
- Cannot accurately estimate delay at different locations or at different times of day
- There are better Dynamic Traffic Assignment (DTA) algorithms available now that should be used

TxDOT/El Paso MPO Draft MTP

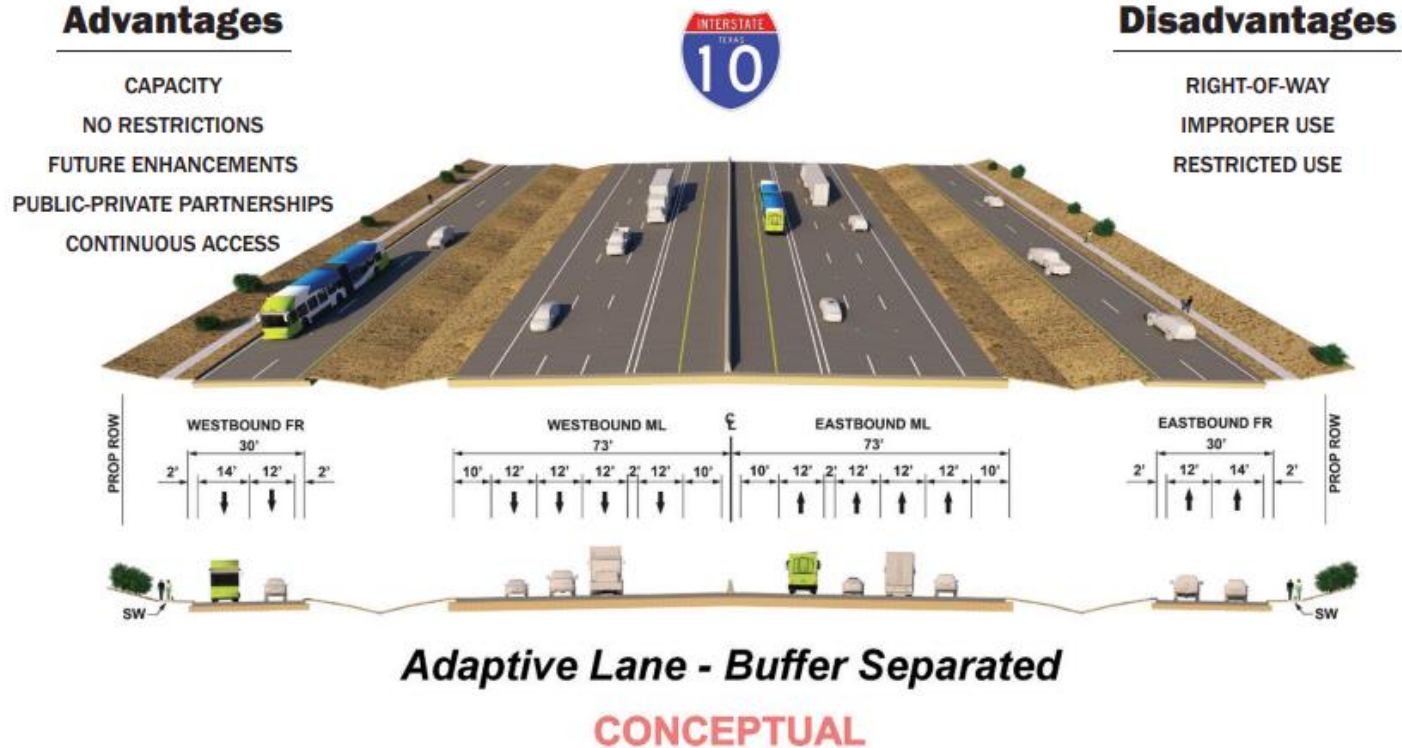
I-10 expansion plan

Segment	From	To	General purpose	Adaptive/transit	Frontage roads	Cost (millions)	Year
1G	Thorn	Executive Center		+1		\$62	2041
2	Executive Center	Copia	+1	+1	+2	\$787	2027
3A	Copia	Paisano	+1	+1		\$319	2031
3B	Paisano	Airway	+1	+1		\$239	2033
3C	Airway	Yarbrough	+1	+1		\$433	2041
3D1	Yarbrough	Zaragoza	+1	+1		\$337	2041
3D2	Zaragoza	Eastlake	+1	+1		\$337	2037

I-10 Segment 2 (Downtown) Recommendations

1) Eliminate transit-adaptive lanes

PROPOSED I-10 TYPICAL SECTION

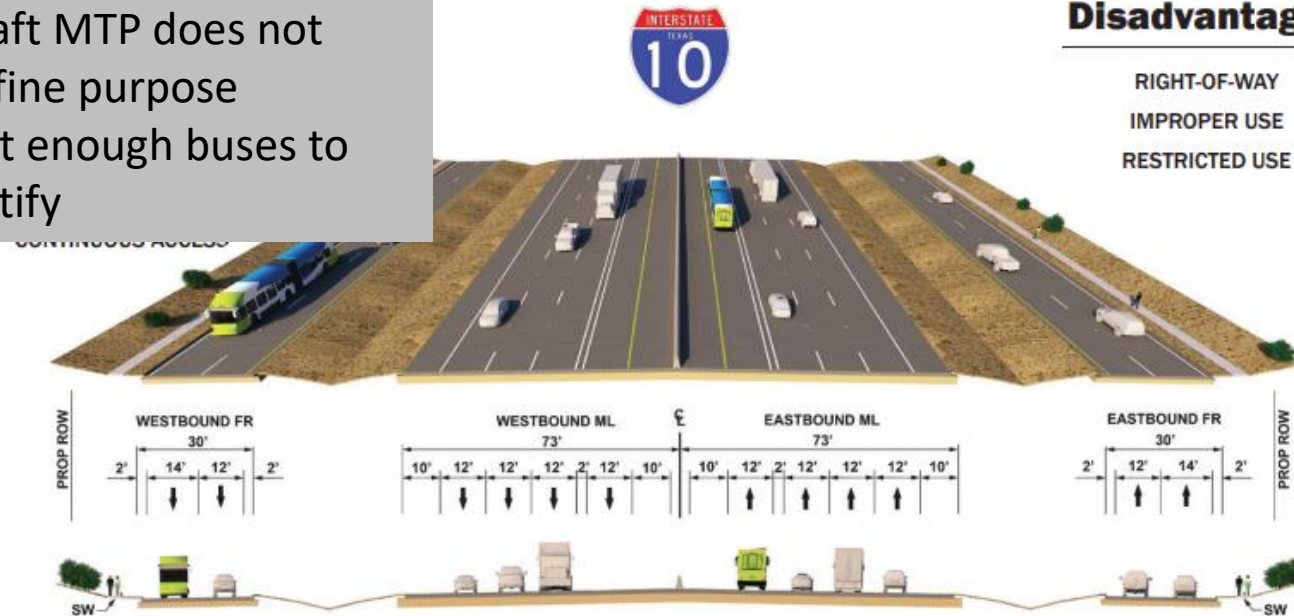


I-10 Segment 2 (Downtown) Recommendations

1) Eliminate transit-adaptive lanes

PROPOSED I-10 TYPICAL SECTION

- Draft MTP does not define purpose
- Not enough buses to justify



Disadvantages

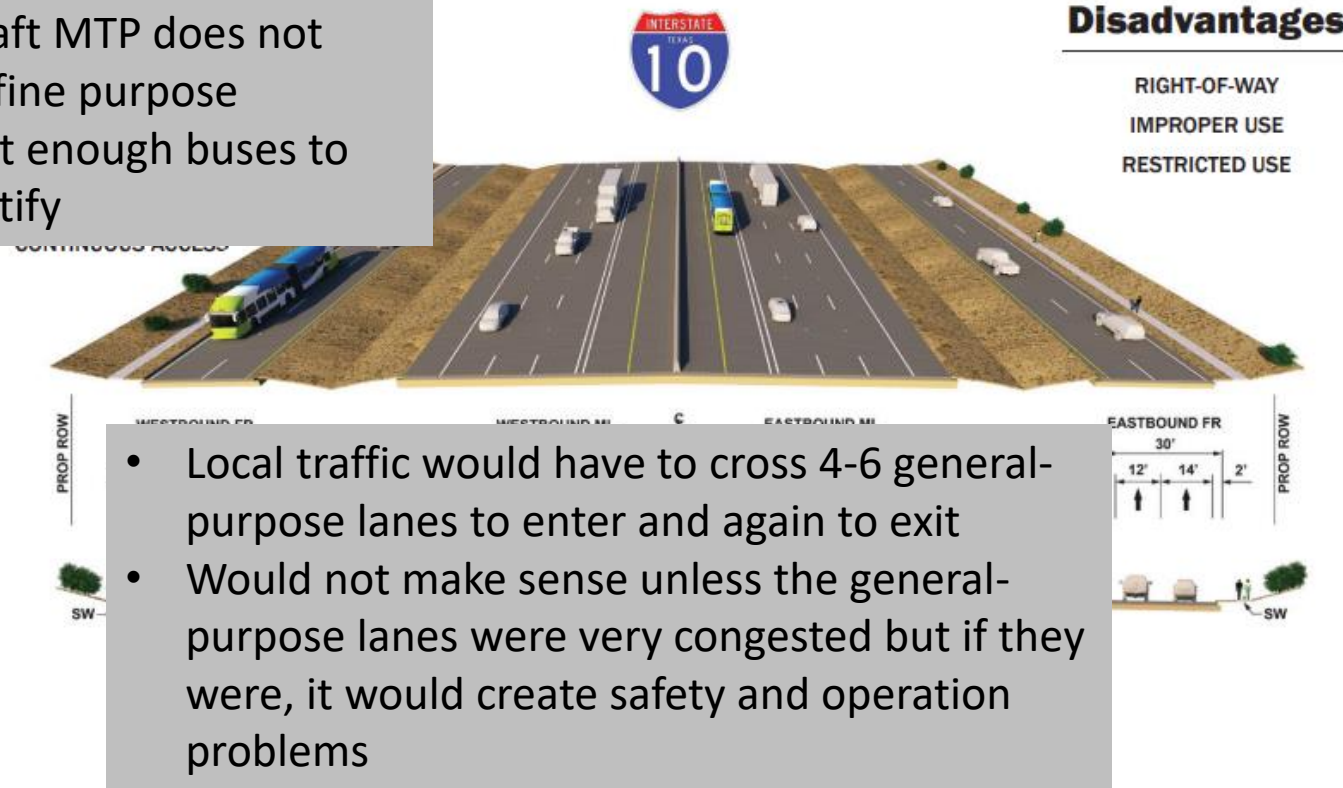
- RIGHT-OF-WAY
- IMPROPER USE
- RESTRICTED USE

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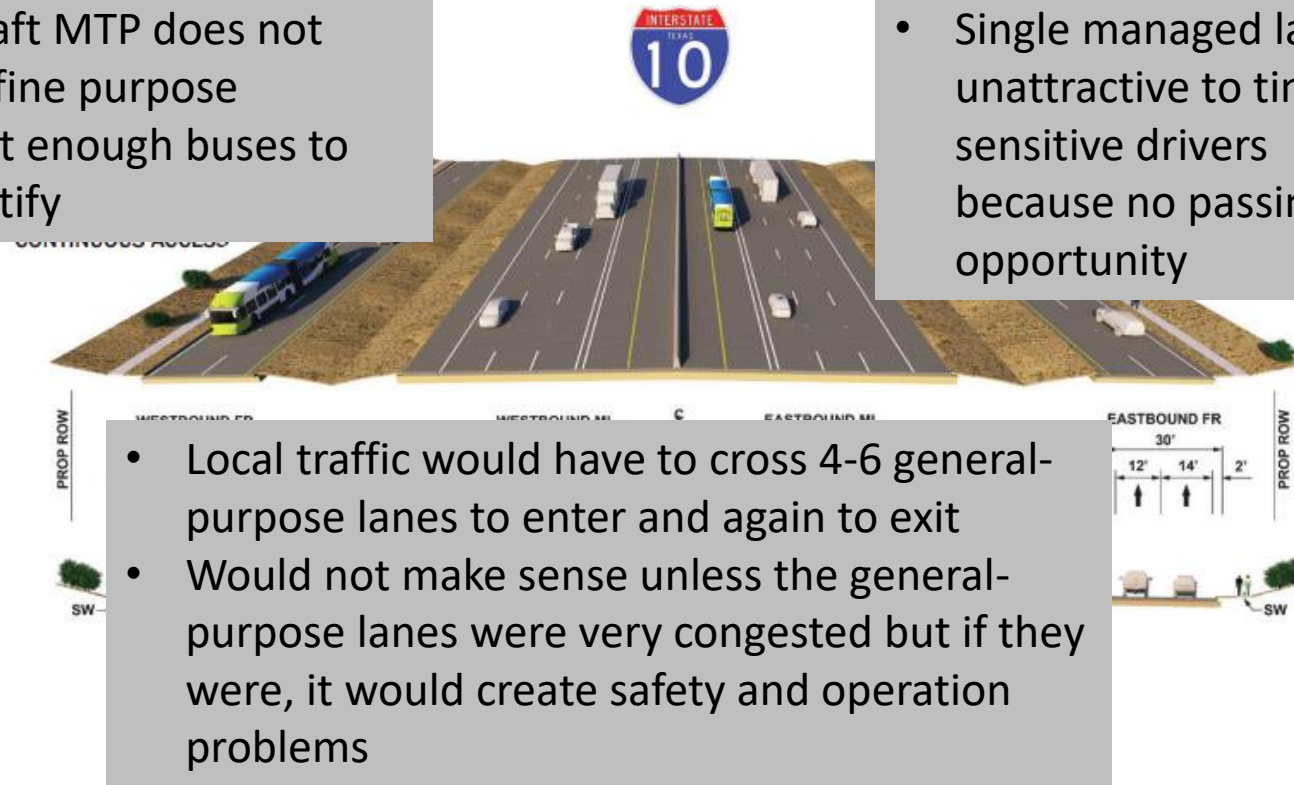
I-10 Segment 2 (Downtown) Recommendations

1) Eliminate transit-adaptive lanes

PROPOSED I-10 TYPICAL SECTION

- Draft MTP does not define purpose
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- Single managed lane unattractive to time-sensitive drivers because no passing opportunity

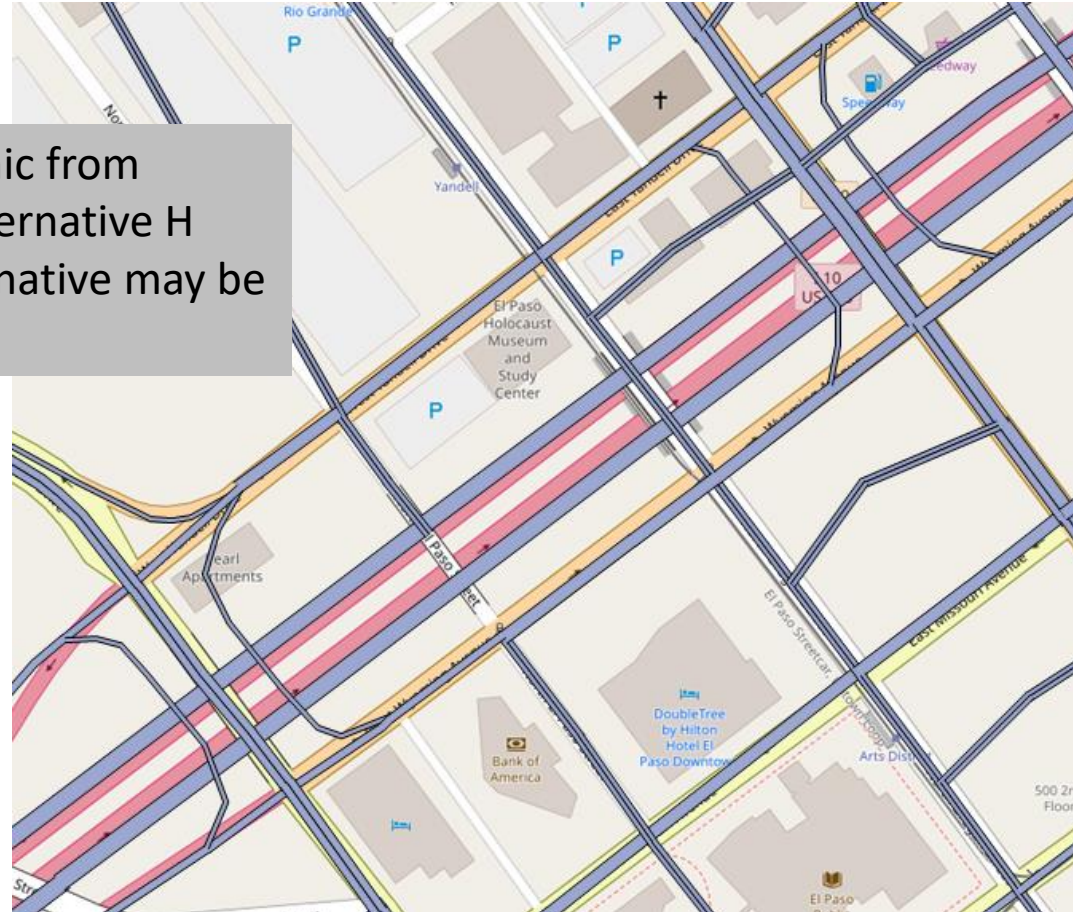


- Local traffic would have to cross 4-6 general-purpose lanes to enter and again to exit
- Would not make sense unless the general-purpose lanes were very congested but if they were, it would create safety and operation problems

I-10 Segment 2 (Downtown) Recommendations

2) Eliminate conversion of portions of Yandell Drive and Wyoming Avenue downtown to frontage roads

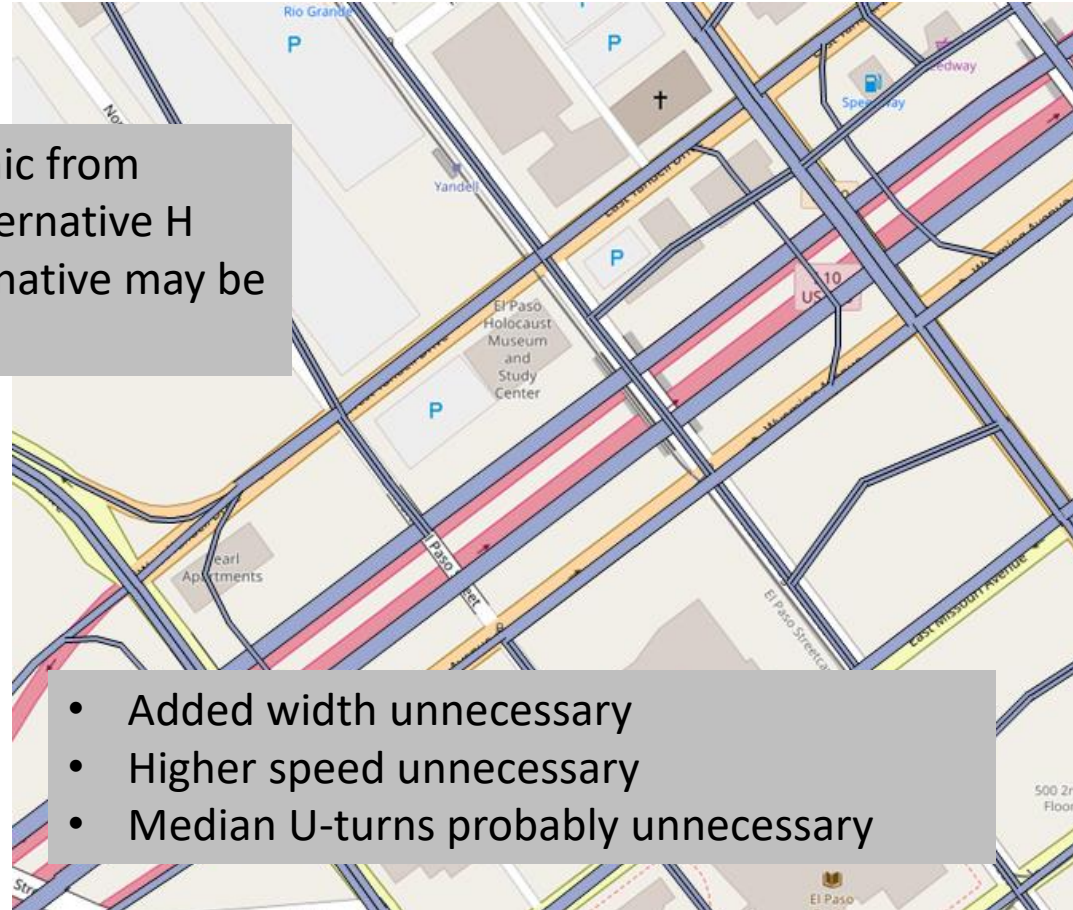
- This graphic from TxDOT Alternative H
- MTP alternative may be different



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- Added width unnecessary
- Higher speed unnecessary
- Median U-turns probably unnecessary

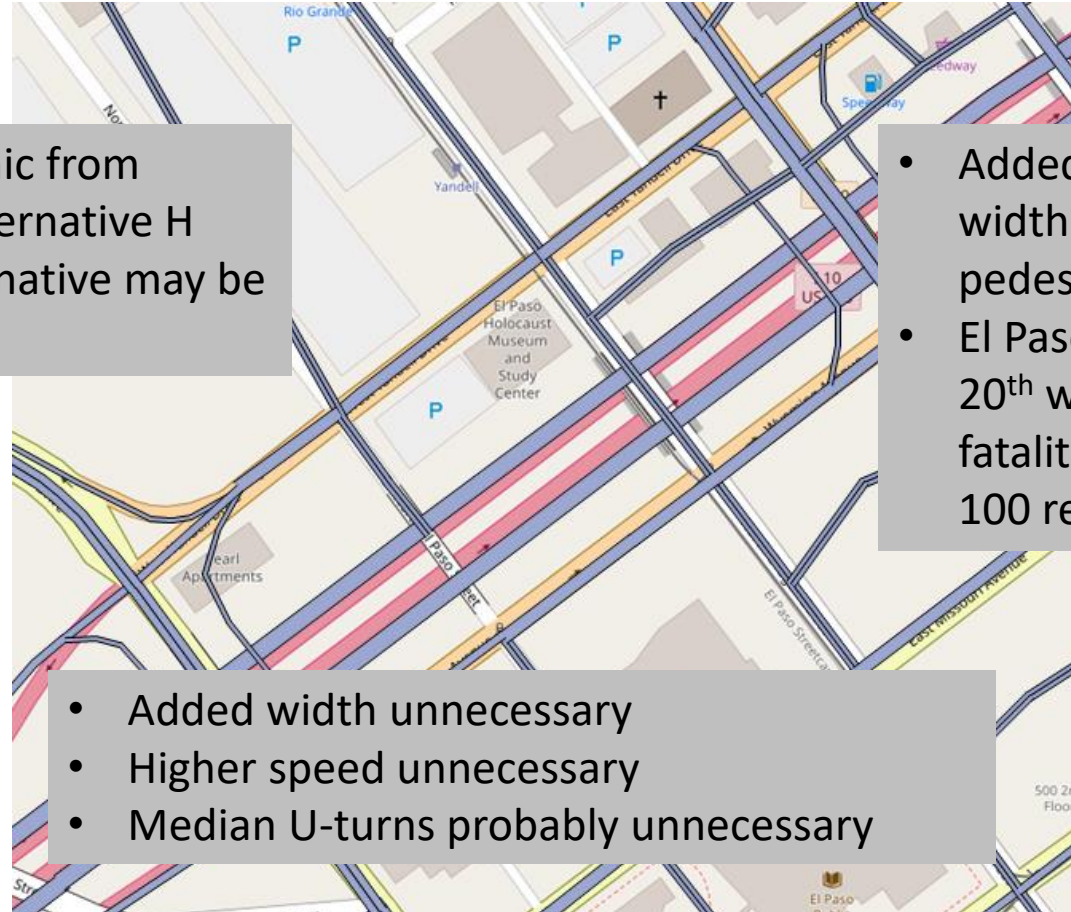
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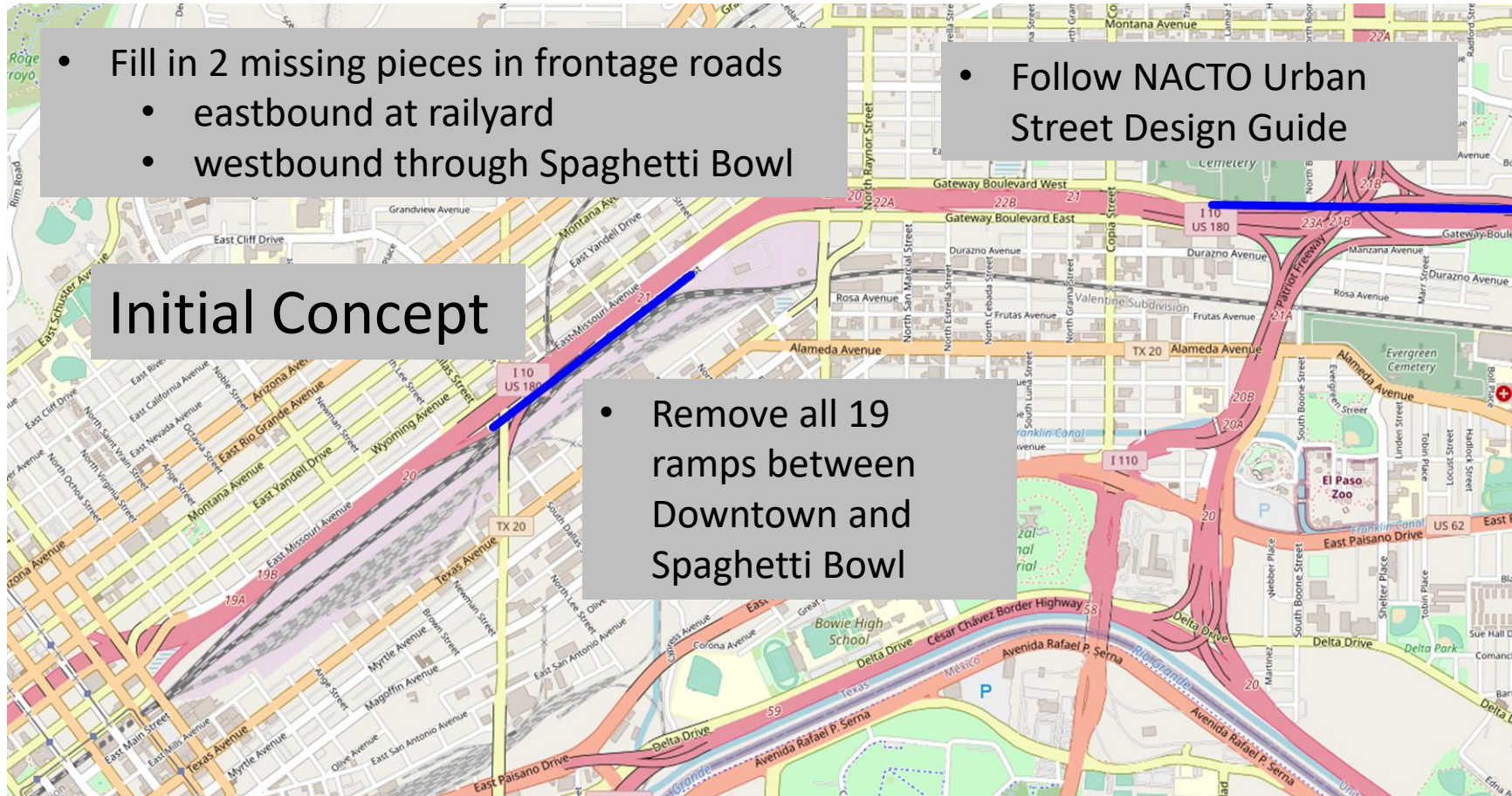
- Added speed and/or width would endanger pedestrians
- El Paso region has the 20th worst pedestrian fatality rate of largest 100 regions

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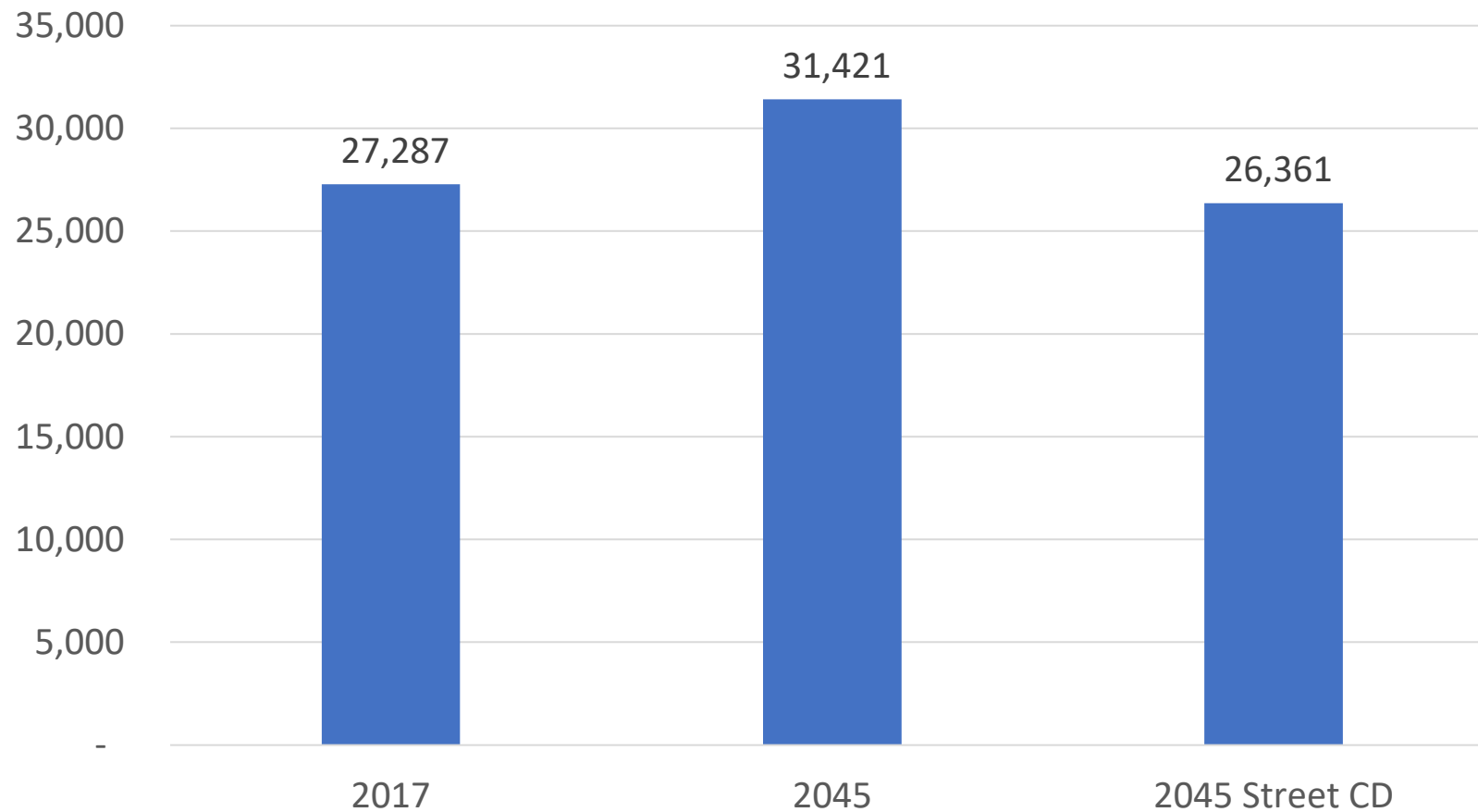
I-10 Segment 2 (Downtown) Recommendations

3) Create a street collector-distributor system that keeps many local trips off I-10

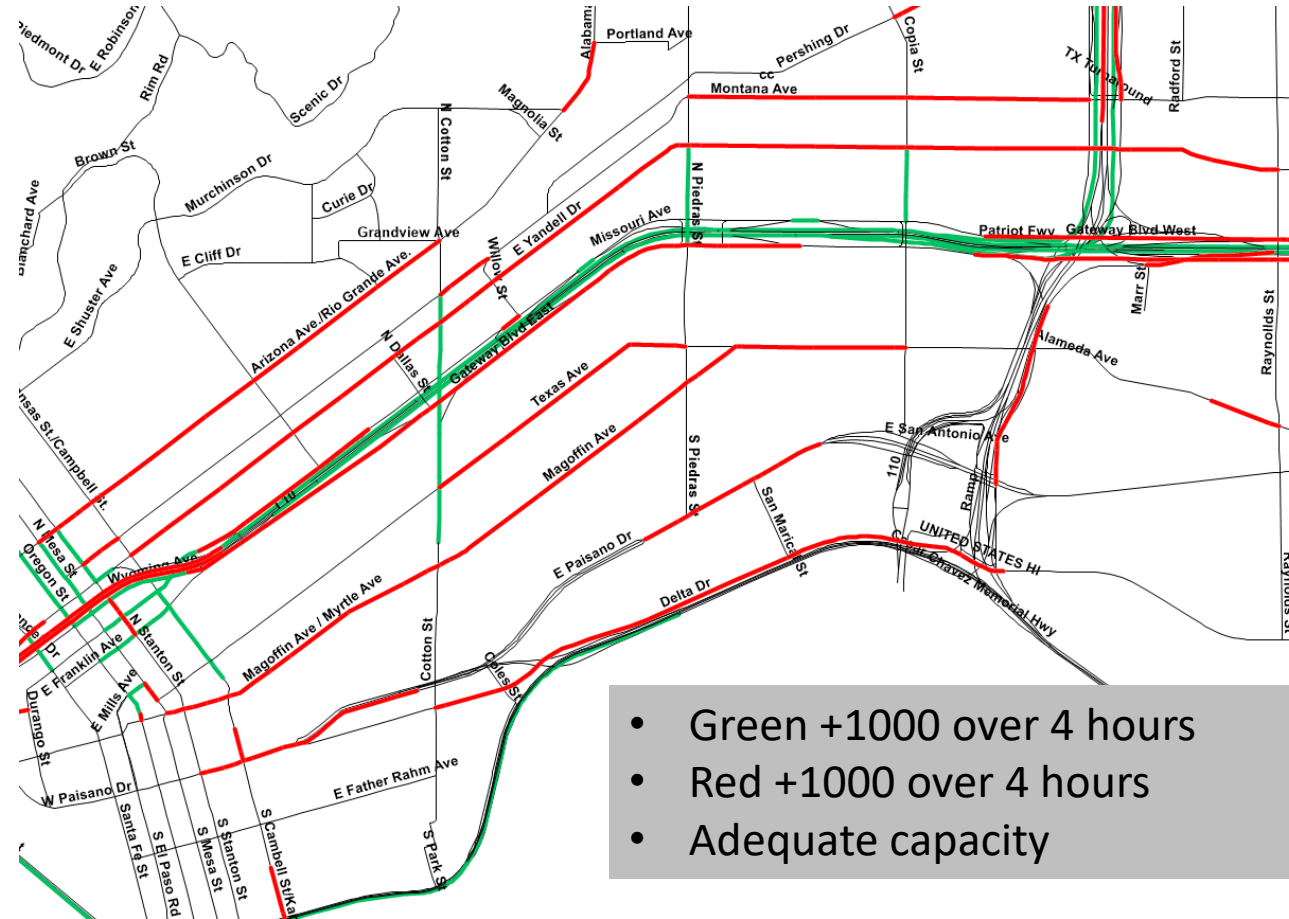


Works in Shifting Traffic Off I-10

Afternoon peak period Piedras to Copia



Diverted traffic spread across street grid



Summary

- Realistic expectations of I-10 expansion
 - Congestion will not be eliminated
 - Huge expense will shift more local traffic to I-10 during peak periods
 - Regional transportation model overestimates congestion benefits
- I-10 Segment 2 recommendations
 - Eliminate transit-adaptive lanes
 - Eliminate conversion of portions of Yandell Drive and Wyoming Avenue downtown to frontage roads
 - Create a street collector-distributor system that keeps many local trips off I-10

Remaining work

- Refine this alternative and do a more complete evaluation.
- Consider extending the street collector-distributor concept to the west of Downtown
- Consider the need for adding general purpose lanes
- It would be most useful for everyone, including the El Paso MPO and TxDOT, to do these analyses with the 2050 MTP model rather than the outdated 2045 model