US 87 ARTERIAL CORRIDOR STUDY

North School Street to Wal-Mart Driveway in Boerne, Texas

July 26, 2007
Project Scope

- Data Collection
- Traffic Forecast
- Parking Analysis
- Crash Evaluation
- Corridor Analysis for Existing/Future Conditions
- Network Optimization/Progression
Analysis

- Existing year analysis (2006)
- Forecasted design year traffic (2011)
- Developed no-build 2011 traffic models
- Defined alternative solutions
- Considered parking impacts
- Analyzed Crash Data
- Developed traffic models
- Summarized results
- Presented results to City, TxDOT, and Public
Parking Analysis

Johns Road to West Blanco Road

27 Existing Parking Spaces

West Blanco Road to River Road

97 Existing Parking Spaces
US 87 Crash History

- Total Crashes within Study Area
  - 2003 – 39 crashes
  - 2004 – 47 crashes
  - 2005 – 67 crashes
- Approximately 70% increase in 3 years
- Crash Types
  - Right Angle
  - Rear End
  - Miscellaneous
Crash Intensity Map

North School Street to West Blanco Road
West Blanco Road to River Road
River Road to Wal-Mart Driveway

Legend

- Rear End Collisions
- Miscellaneous Collisions
- Right Angled Collisions

Accident Intensity

- © 1.5
- © 6-10
- © 11-15
- © 16-20
US 87 Crash History

- Crash rates
  - Evaluated for years 2003, 2004, and 2005
  - US 87 = 4.51 crashes/MVMT
  - National Average = 2.12 crashes/MVMT

- Crashes due to:
  - High number of access points
  - Lack of refuge area for turning vehicles
  - Sight distance issues

*Source: NHTSA*

Crashes/MVMT

2003

2004

2005

Year

US 87 Study Corridor  National Average

NATIONAL AVERAGE

NATIONAL AVERAGE

NATIONAL AVERAGE
Access Points

(Highland Drive to Hill Country Square Driveway)

Access Point Comparison

- HCM Recommendation
- Existing Condition
Conflict Points
Four-Legged Intersection

CONFLICT POINTS

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Conflict Points
Three Legged Intersection

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Conflict Points

ghland Drive to Hill Country Square Driveway)

400+ conflict points
Raised median decreases conflict points by approximately 55%
Consider consolidation of driveways to further reduce conflict points
TxDOT Access Management Manual recommends considering raised medians on roadways with ADT greater than 20,000 vpd
Recommendations

- Alternatives 1 and 2 Developed
  - Alternative 1 = Eliminate parking + Add center turn lane
  - Alternative 2 = Eliminate parking + Install raised medians
  - Both alternatives...
    - Increase storage lengths
    - Remove parking
    - Close driveways/prohibit movements
    - Coordinate signal network/progression
Improvements
Blanco Road to River Road

EXISTING

ALTERNATIVE 1

ALTERNATIVE 2
Improvements
Street to Bandera Road

ALTERNATIVE 1

ALTERNATIVE 2
Study Summary

- The proposed improvements reduce network delay and improve operations along US 87
- Removing parking minimizes conflicts and improves traffic operations
- Raised medians improve traffic safety and operations
- Consolidating driveways will further reduce conflicts and improve operations
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