UDC Training Session Overview

- 1:00 – 1:30: Introduction to Rough Proportionality and HB 1835
- 1:30 – 2:30: Overview of New San Antonio UDC Requirements
- 2:30 – 2:45: Q&A Session #1
- 2:45 – 3:00: Break
- 3:00 – 4:00: ‘Real’ Project Examples (3 Projects from Start to Finish)
- 4:00 – 4:30: Q&A Session #2
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Introduction to Proportionality

- **Brief Legal History**
- **Flower Mound Details and its Aftermath**
- **HB 1835 Passes in Texas**
- **San Antonio’s Response to HB 1835**
- **HB 1835 Project Overview**
- **Developer Participation Toolbox**
- **What are other big, fast growing cities doing?**
- **HB 1835 Project Goals**
The Legal Side

- US Supreme Court Cases
  - Nollan vs. California Coastal Comm’n (1987)
    - The Beachfront Path – nature of exaction vs. the impacts the commission sought to mitigate
    - Do permit conditions have an essential nexus to legitimate state interests?
    - Typically easy to satisfy for transportation
  - Dolan vs. City of Tigard (1994)
    - Hardware store expansion – drainage and bikeway
    - Is the taking roughly proportional in nature and to the extent to the impact of the development?
Flower Mound Details

- Texas Supreme Court
- Flower Mound vs. Stafford Estates (2002)
  - Town required Stafford to reconstruct Simmons Road (north-south road) in conjunction with the development
  - Stafford complied under protest and later challenged

Flower Mound Details (cont.)

- Texas Supreme Court
- Flower Mound vs. Stafford Estates (2002)
  - Nollan – upgrading Simmons Road “substantially advanced” legitimate interests (and had an essential nexus)
  - Dolan – the improvements were not roughly proportional to the impacts of the development
Flower Mound Aftermath

• Texas Supreme Court Says:
  – An “individualized determination” must be made for a taking required as a condition of approval (a “rough proportionality test”)
  – Court allowed consideration of impact to total facilities system, not just the specific exaction
  – Calculations do not require “mathematical exactitude”

• Reality: Rough proportionality must be incorporated into subdivision regulations

It’s the Law!

• September 2005 – 79th Session of Texas Legislature Passes HB 1835 amending Section 212 of the Local Gov’t Code
• (a) If a municipality requires as a condition of approval for a property development project that the developer bear a portion of the costs of municipal infrastructure improvements by the making of dedications, the payment of fees, or the payment of construction costs, the developer’s portion of the costs may not exceed the amount required for infrastructure improvements that are roughly proportionate to the proposed development as approved by a professional engineer who holds a license issued under Chapter 1001, Occupations Code, and is retained by the municipality.
It’s the Law! (cont.)

• (b) A developer who disputes the determination made under Subsection (a) may appeal to the governing body of the municipality. At the appeal, the developer may present evidence and testimony under procedures adopted by the governing body. After hearing any testimony and reviewing the evidence, the governing body shall make the applicable determination within 30 days following the final submission of any testimony or evidence by the developer.

• (c) A developer may appeal the determination of the governing body to a county or district court of the county in which the development project is located within 30 days of the final determination by the governing body.

It’s the Law! (cont.)

• (d) A municipality may not require a developer to waive the right of appeal authorized by this section as a condition of approval for a development project.

• (e) A developer who prevails in an appeal under this section is entitled to applicable costs and to reasonable attorney’s fees, including expert witness fees.

• (f) This section does not diminish the authority or modify the procedures specified by Chapter 395.
San Antonio’s Response

- Concern that portions of the 2005 UDC could be in conflict with HB 1835
  - With the new law, is there a chance the City could face a legal challenge?
- Advisory Committee Created in 2006
  - City, Bexar County, ISD, and Development Community Stakeholders
  - UDC Amendments are a product of the work of this advisory committee

HB 1835 Project Overview

- Overview of KHA Scope
  - Assist the City in Complying with HB 1835
  - Task 1: Data Collection and Research
  - Task 2: Methodology Development and Policy Creation
  - Task 3: Stakeholder Involvement
  - Task 4: Training and Implementation
- 15+ Advisory Committee meetings to review and discuss Rough Proportionality and San Antonio’s UDC
HB 1835 Project Overview (cont.)

- Existing UDC Sections identified which could be in conflict with HB 1835:
  - TIA Requirements - 35-502
  - Substandard Existing Streets - 35-506 D (9)
  - Boundary Streets - 35-506 E (8)
  - No Appeals Process included in UDC

Development Participation Toolbox

- What policies could a City use to comply with HB 1835 and require some developer participation in off-site infrastructure?
  - Border Street Policies
  - Impact Fees
  - Improvements Recommended through Traffic Impact Analysis (TIA or TIS)
  - Proportionality Calculations
  - Concurrency (Florida)
  - Development Agreements
What others are doing (as of 2008):

<table>
<thead>
<tr>
<th>Metropolitan Area</th>
<th>Primary Funding Mechanism(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Antonio, TX</td>
<td>Border Street + TIAs</td>
</tr>
<tr>
<td>Fort Worth, TX</td>
<td>Impact Fees</td>
</tr>
<tr>
<td>Houston, TX</td>
<td>Border Street + TIAs</td>
</tr>
<tr>
<td>Austin, TX</td>
<td>Border Street + Proportionality</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>Impact Fees</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>Border Street + Impact Fees</td>
</tr>
<tr>
<td>Riverside, CA</td>
<td>Impact Fees</td>
</tr>
<tr>
<td>Sacramento, CA</td>
<td>Impact Fees</td>
</tr>
<tr>
<td>Las Vegas, NV</td>
<td>TIAs + Impact Fees</td>
</tr>
<tr>
<td>Orlando, FL</td>
<td>Impact Fees + Concurrency</td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td>TIAs</td>
</tr>
</tbody>
</table>

HB 1835 Project Goals:

- Realization by the Advisory Committee that there isn’t a simple solution
- Implement a policy that is:
  - Consistent with HB 1835 requirements
  - Improves upon the existing UDC to require developer participation
    - But only when warranted by the development
  - Don’t eliminate/strain the ability for development to successfully occur
- New UDC balances these goals
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Overview of New San Antonio UDC:

- Former UDC Requirements
- Creation of a ‘Balanced’ Solution
- How to Calculate the ‘Roughly Proportionate Share’
- Proportionality Worksheet
  - Tool for calculating the maximum
- Summary of UDC Revisions related to Rough Proportionality
- Feedback-based RID’s

Former UDC Requirements

1. Potentially inconsistent with HB 1835
2. Previous TIA requirements limited the City’s ability to keep up with growth
   - City essentially could not require off-site mitigation (except border streets)
   - Growth outpaced the City’s ability to match needs with publicly funded projects
3. City/Developers expressed a desire to only require/make improvements when necessitated by the development
The ‘Balanced’ Solution

- Committee evaluated the existing UDC to understand when developers were required to make off-site improvements to City infrastructure
  - ‘Off-site’ includes thoroughfares (i.e. collectors & arterials), traffic signals, and intersection improvements
- While difficult to easily categorize a policy as it applies to each development project, let’s use an analogy:

The ‘Balanced’ Solution (cont.)
The ‘Balanced’ Solution (cont.)

No Developer Contribution

Roughly Proportionate Share

Existing UDC

Roughly Proportionate Share
How do you calculate ‘rough proportionality’?
How do we determine what the City could require as a condition of development approval?
Proportionality worksheet developed to help make this maximum determination
- Based on City roadways and unit prices
- Uses ITE Trip Generation information
Supply and Demand Comparison

- Worksheet developed to quickly compare the demand created by the development to the supply required by the UDC.
  - Demand created is based on land use, ITE trip generation, trip length, and average cost
  - Demand = the maximum mitigation amount
  - Supply is based on the cost of improvements required by the UDC
- Supply cannot exceed demand – otherwise improvements are not roughly proportionate

Proportionality Worksheet

- Development Info ➔
- Demand Calculation ➔
- Supply Calculation ➔
- Summary of Results ➔
Proportionality Worksheet (cont.)

- Development Information

```
Rough Proportionality Worksheet
for roadway infrastructure improvements
City of San Antonio, Texas

Development Name:
Applicant:
Legal Description (etc.):
Case / Permit Number:

Date:
```

Proportionality Worksheet (cont.)

- Demand Calculation

```
DEMAND - Traffic Generated by Proposed Development:

Mode of Analysis:  

Peak Hour Traffic:

Impact on System:

Demand:

Impact of Development:

Estimated Average Cost Per Vehicle-Mile:

IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:

0.00

$9
```

Notes:  
1. The DEMAND results should be used only when supported by a traffic study.  
2. The proportionality worksheet is not intended to be used for the purpose of providing the impact of a development on an existing thoroughfare system.  
3. Estimated average cost per vehicle-mile is derived from the

Kimley-Horn and Associates, Inc.
Proportionality Worksheet (cont.)

• Supply Calculation

Supply / Demand Comparison

- If improvements (supply) required by the UDC exceeds the maximum amount of the mitigation improvements required (demand), then the improvements are not roughly proportionate
- If supply is less than demand, then OK.
Sample Development

- Lake Villas Townhomes & Retail Center
  - Proposed new development
  - Bexar Blvd is currently a 2 lane county road
  - What is the maximum mitigation amount?
  - What improvements may be required?

Lake Villas Example

- Complete Proportionality Worksheet
- Complete Development Information
- Fill in Land use, intensity, & trip length to determine maximum mitigation
- Border Street Requirement:
  - 2 Lanes of Bexar Blvd for 500’
- TIA Requirement Results:
  - Traffic Signal at Bexar Boulevard and Lake Villas Drive
Lake Villas Example (cont.)

- Development Information

Rough Proportionality Worksheet
for Roadway Infrastructure Improvements
City of San Antonio, Texas

Development Name: Lake Villas Townhomes and Retail Center
Applicant: Lake Villas Development, LLC
Legal Description (Lot, Block): Lots 1 and 2 of the Lake Villas Edition
Case / Plot Number: SP-6-0060
Date: September 30, 2000

Demand Calculation

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Development Unit</th>
<th>Intensity</th>
<th>Peak Hour Trip Rate</th>
<th>Demand: (Rt. mi/h)</th>
<th>Impact of Development on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwelling Units</td>
<td>1,830 SF GFA</td>
<td>1.85</td>
<td>2.46</td>
<td>117.00</td>
<td>$385,160</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>82.25</td>
<td>$211,361</td>
</tr>
</tbody>
</table>

Estimated Average Cost Per Vehicle-Mile: $479,497

IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM: 209.25

Notes: The intensity data is based on the potential development of the project. The demand calculation is based on the peak hour trip rate and the demand generation rate. The table reflects the expected demand for the proposed development. The cost per vehicle-mile is estimated based on the impact of the development on the thoroughfare system.
Lake Villas Example (cont.)

- Supply Calculation

A comparison of the capacity provided by the development against the traffic impacts of the proposed development.

<table>
<thead>
<tr>
<th>Roadway Supply</th>
<th>Cost</th>
<th>Supplied</th>
<th>Impact of Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary, 2-lane</td>
<td>$325,000</td>
<td>2,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Interchange Improvements</td>
<td>$150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right-of-Way Dedication</td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM: $455,000
TOTAL SUPPLY OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM: $430,000

Based on the results of the rough proportionality analysis, the anticipated impact of demand on the system exceeds the value of capacity supplied by the proposed development. Given these assumptions, the anticipated impact of demand of the development exceeds the value of capacity supplied by approximately 10%. Therefore, the roadway improvements required by the City are justified. This means the applicant is adding less capacity than needed to support the development.

Note: Although this is not true and is obtained from a development map, it shows the results of the analysis.

- In this scenario, a 500’ border street and a traffic signal would be less than the maximum mitigation amount; therefore, the proportionality test is satisfied.
Sample Development #2

- Lake Villas Townhomes & Retail Center #2
  - Proposed new development
  - Bexar Blvd was just reconstructed to a 4 lane arterial by the City
  - What is the maximum mitigation amount?
  - What improvements may be required?

Lake Villas Example #2

- Complete Proportionality Worksheet
- Complete Development Information
- Fill in Land use, intensity, & trip length to determine maximum mitigation
- No Border Street Requirement
- TIA Requirement Results:
  - Traffic Signal at Bexar Boulevard and Lake Villas Drive
Lake Villas Example #2 (cont.)

• Supply / Demand Comparison

<table>
<thead>
<tr>
<th>SUPPLY / DEMAND COMPARISON:</th>
<th>Cost</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL IMPACT OF DEMAND PLACED ON THROUGHFAR SYSTEM</td>
<td>$478,487</td>
<td>DEMAND &gt; SUPPLY</td>
</tr>
<tr>
<td>TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THROUGHFAR SYSTEM</td>
<td>$100,000</td>
<td>319.49%</td>
</tr>
</tbody>
</table>

Based on the results of this rough proportionality analysis, the anticipated impact of demand on the system exceeds the value of capacity (supply) provided by the proposed development. Given these assumptions, the anticipated impact of demand of the development exceeds the value of capacity supplied by approximately 319.49%. Therefore, the mitigation improvements required by the City are justified as the applicant is adding less capacity than needed to support their development.

• In this scenario, a traffic signal would be less than the maximum mitigation amount; therefore the proportionality test is satisfied

Basic Overview of UDC Revisions

• TIA + Border Street provisions become the primary tools to determine off-site requirements
• In no case shall a development be required to exceed their roughly proportionate amount
• Addition of the appeals process
• Effective March 1, 2010
• This approach has the following benefits:
  – **City / County**: Improved identification of and requirements for developers to make necessary mitigation improvements
  – **Development**: Verification that required improvements will be roughly proportionate to development; plus the ability to appeal
Summary of UDC Revisions

- **35-501 – General Provisions**
  - (b) generally states that the City will make a roughly proportionate determination based on the information provided by the applicant
  - (d) provides the framework for an applicant to appeal the City’s roughly proportionate determination
    - Appeal must be made within 30 days of the determination from the City

Summary of UDC Revisions (cont.)

- **35-502 – Traffic Impact Analysis and Roughly Proportionate Determination**
  - (a) Outline of TIA / RPD process
  - (b) Overview of TIA types (based on # of trips)
  - (c) TIA Study Area and Study Levels
  - (d) Scoping Meeting and Level of Service criteria
  - (e) Roadway capacities and turn lanes
  - (f) Mitigation improvements and roughly proportionate determination
  - (g) Limitations on mitigation
  - (h) Exemptions
Summary of UDC Revisions (cont.)

• **35-502 (a) Outline of TIA / RPD Process**
  1. Applicant evaluates what type of analysis, if any, is required (based on # of trips generated)
  2. Complete TIA – what mitigation improvements are required to adequately support the development and how much do they cost?
  3. Determine the maximum mitigation amount (using “demand” portion of the worksheet)
  4. Compare the cost of the mitigation improvements from TIA to the maximum mitigation amount

Summary of UDC Revisions (cont.)

• **35-502 (b) Overview of TIA Types**
  – If # of Peak Hour Trips (PHT) < 76, then complete form and turn lane assessment
  – For MDPs and PUDs > 500 acres, Study Level TIA is required (planning level study)
  – TIA required if any of the following are true:
    • PHT = 76+
    • Change to existing TIA of 76 PHT or 10% of PHT
    • When building permit has 5% more trips than TIA
    • Studies older than 5 years
    • When access points are reduced or relocated
Summary of UDC Revisions (cont.)

- **35-502 (c) TIA Study Area and Study Levels**
  - What intersections should be analyzed?
    - All intersections of the development with the adjacent roadway system
    - ‘Relevant’ intersections within 1.5 miles from the boundary of the proposed development (measured along the roadway network) where inbound or outbound trips are at least 76 PHT
  - **Old Study Levels are now for fee purposes only**

Summary of UDC Revisions (cont.)

- **35-502 (d) Scoping Meeting and LOS Criteria**
  - Scoping meeting required to confirm TIA assumptions (intersections, time periods, etc.)
  - **LOS Criteria (no LOS chart from old UDC):**
    - Maintain minimum LOS C
    - If already below LOS C, maintain delay value within: 10% of projected background delay for unsignalized and 20% of projected background delay for signalized intersections
    - Exemption for unsignalized intersections that do not meet signal warrants (LOS D, E, and F may be OK)
    - Non-compliant intersections may be identified when no viable improvements exist
Summary of UDC Revisions (cont.)

• **35-502 (e) Roadway Capacity and Turn lanes**
  – Provides for roadway capacity values
  – Right-turn lane requirements
    • 500 vpd or 50 vph
    • TxDOT locations
    • When unsafe conditions exist
  – Left-Turn lane requirements
    • Above + at all existing or proposed median openings
  – Turn-lanes and traffic signals, if proposed to only serve the development, may not be eligible for comparison with the maximum mitigation amount

Summary of UDC Revisions (cont.)

• **35-502 (f) Mitigation Improvements and RPD**
  – Provides for what is included in the mitigation improvements (supply side) total
    • TIA identified + Border Streets + others
  – Procedures for the comparison of mitigation (supply) and maximum mitigation (demand)
  – Provides the framework for the proportionality worksheet methodology and allows for future updates by the City
  – Provides ‘credit’ for previously constructed improvements by a developer
Summary of UDC Revisions (cont.)

- **35-502 (g) Limitation on Mitigation**
  - Improvements required but that have been planned and funded through a pending CIP project are not required
  - Mitigation requirements may be waived by the City for development within IH 410.

- **35-502 (h) Exemptions**
  - “D” Downtown District
  - IDZ – Infill Development Zone
  - Traditional Neighborhood or Transit-Oriented Development (TND or TOD)

Summary of UDC Revisions (cont.)

- **35-B122 – TIA Outline**
  - (a) Provides the outline and information required for inclusion in TIA’s
  - (b) Provided the outline for Study Level TIA’s
Feedback-Based RID’s

1. Linear trip generation rates are to be used (unless regression equations are allowed by the City, as supported by the land use)
2. ROW dedication value to be determined using appraisal district land values
3. Clarification: developments that generate less than 76 PHT will still have an RPD performed (to justify potential ROW dedication and turn lane requirements)
4. Clarification: how the City will treat TxDOT related improvements

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‘Real’ Project Examples

1. Guiding Light Treatment Center
   - Low traffic impact development with a ROW dedication requirement

2. Bulverde Market
   - Large development, multiple land uses, ROW dedication, border streets, and numerous TIA recommendations

3. Thousand Oaks Commercial
   - Small commercial development
Guiding Light Treatment Center

- Below the 76 PHT threshold for a TIA; therefore a threshold worksheet was completed
- No turn lanes required (no drive exceeds threshold; assume no sight distance issue)
- 30’ ROW dedication required along the 564’ of Rabel Road frontage
  - Appraised value of ~$8,759/acre
  - ROW dedication of 16,920 ft$^2$ (0.39 acres)
  - ROW dedication = 0.39 * $8,759 = $3,416

Guiding Light Treatment Center

- Conduct RPD (Compare Supply and Demand)

  - Demand ($105,867) exceeds the supply ($3,416); therefore this ROW dedication is justified
‘Real’ Project Examples

1. Guiding Light Treatment Center
   - Low traffic impact development with a ROW dedication requirement

2. Bulverde Market
   - Large development, multiple land uses, ROW dedication, border streets, and numerous TIA recommendations

3. Thousand Oaks Commercial
   - Small commercial development
Bulverde Market

- Trip generation requires a full TIA

Table 3: Not Projected Site Traffic – Unadjusted

<table>
<thead>
<tr>
<th>Land Use</th>
<th>ITE Code</th>
<th>Size</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Daily Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping Center</td>
<td>820</td>
<td>325</td>
<td>205</td>
<td>130</td>
<td>515</td>
</tr>
<tr>
<td>Free Standing Discount Store</td>
<td>815</td>
<td>60</td>
<td>16</td>
<td>152</td>
<td>338</td>
</tr>
<tr>
<td>Supermarket</td>
<td>850</td>
<td>90</td>
<td>178</td>
<td>480</td>
<td>658</td>
</tr>
<tr>
<td>Drive-In Bank</td>
<td>912</td>
<td>16</td>
<td>180</td>
<td>409</td>
<td>589</td>
</tr>
<tr>
<td>High Turnover (Sit Down)</td>
<td>932</td>
<td>32.8</td>
<td>196</td>
<td>218</td>
<td>414</td>
</tr>
<tr>
<td>Fast-Food Restaurant with Drive-</td>
<td>954</td>
<td>23</td>
<td>605</td>
<td>307</td>
<td>16,468</td>
</tr>
<tr>
<td>Pharmacy with Drive-Thru</td>
<td>881</td>
<td>14.82</td>
<td>23</td>
<td>65</td>
<td>130</td>
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<tr>
<td>Automated Car Wash</td>
<td>948</td>
<td>4.6</td>
<td>0</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Gasoline Service Station</td>
<td>944</td>
<td>10</td>
<td>60</td>
<td>69</td>
<td>1,666</td>
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<td>Hotel</td>
<td>910</td>
<td>140</td>
<td>48</td>
<td>43</td>
<td>1,104</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>1,529</strong></td>
<td><strong>2,296</strong></td>
<td><strong>57,871</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>2,613</strong></td>
<td><strong>4,654</strong></td>
<td><strong>57,871</strong></td>
</tr>
</tbody>
</table>

Bulverde Market

- ‘Relevant’ Intersections
- Includes all site intersections, plus 6 ‘off-site’ intersections
- New study area requirements in UDC would likely have expanded this study area by ~3 intersections
Bulverde Market

- Maximum Mitigation = $9,280,094

**DEMAND - Traffic Generated by Proposed Development:**

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Development Unit</th>
<th>Peak Hour Trip Rate</th>
<th>Peak Hour Trip Rate Increase</th>
<th>Trip Generation</th>
<th>Peak Generation</th>
<th>Trip Generation Method</th>
<th>Linear Sales Impact of Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping Center</td>
<td>1,000 SF GFA</td>
<td>16</td>
<td>1.96</td>
<td>0%</td>
<td>1.50</td>
<td>1,109.20</td>
<td>$2,170,681</td>
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<tr>
<td>Shopping Center</td>
<td>1,000 SF GFA</td>
<td>10</td>
<td>2.98</td>
<td>0%</td>
<td>1.00</td>
<td>299.99</td>
<td>$525,562</td>
</tr>
<tr>
<td>Supermarket</td>
<td>1,000 SF GFA</td>
<td>80</td>
<td>6.72</td>
<td>0%</td>
<td>1.50</td>
<td>801.20</td>
<td>$2,070,849</td>
</tr>
<tr>
<td>Bank (Drive-Through)</td>
<td>1,000 SF GFA</td>
<td>16</td>
<td>14.53</td>
<td>0%</td>
<td>1.00</td>
<td>346.72</td>
<td>$79,992</td>
</tr>
<tr>
<td>High Volume/Pop Smoke Test Station</td>
<td>1,000 SF GFA</td>
<td>12.08</td>
<td>0.36</td>
<td>0%</td>
<td>1.00</td>
<td>390.91</td>
<td>$31,322</td>
</tr>
</tbody>
</table>

**IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:**

**DEMAND - Traffic Generated by Proposed Development:**

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Development Unit</th>
<th>Peak Hour Trip Rate</th>
<th>Peak Hour Trip Rate Increase</th>
<th>Trip Generation</th>
<th>Peak Generation</th>
<th>Trip Generation Method</th>
<th>Linear Sales Impact of Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Food Restaurant with Drive-Thru</td>
<td>1,000 SF GFA</td>
<td>23</td>
<td>19.92</td>
<td>0%</td>
<td>1.50</td>
<td>933.74</td>
<td>$1,337,640</td>
</tr>
<tr>
<td>Convenience Store</td>
<td>1,000 SF GFA</td>
<td>8.00</td>
<td>16.00</td>
<td>0%</td>
<td>1.50</td>
<td>117.60</td>
<td>$285,952</td>
</tr>
<tr>
<td>Service Station</td>
<td>1,000 SF GFA</td>
<td>10</td>
<td>8.04</td>
<td>0%</td>
<td>1.00</td>
<td>80.40</td>
<td>$184,702</td>
</tr>
<tr>
<td>Hotel</td>
<td>1,000 SF GFA</td>
<td>10</td>
<td>8.04</td>
<td>0%</td>
<td>1.00</td>
<td>80.40</td>
<td>$184,702</td>
</tr>
<tr>
<td>Service Station on Market &amp; Car Wash</td>
<td>1,000 SF GFA</td>
<td>10</td>
<td>8.04</td>
<td>0%</td>
<td>1.00</td>
<td>80.40</td>
<td>$184,702</td>
</tr>
</tbody>
</table>

**IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:**

**Border Streets + TIA Identified Improvements**

<table>
<thead>
<tr>
<th>Roadway Name</th>
<th>Classification</th>
<th>Roadway Length (miles)</th>
<th>Number of Lanes</th>
<th>Supply Cost Excluding ($, 10^3)</th>
<th>Cost Estimate Based on Actual Number of Lanes ($, 10^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Road Extension</td>
<td>Secondary Alternate</td>
<td>6.108</td>
<td>2</td>
<td>$4,764,000</td>
<td>$4,764,000</td>
</tr>
<tr>
<td>Backroad</td>
<td>Secondary Alternate</td>
<td>6.108</td>
<td>2</td>
<td>$4,764,000</td>
<td>$4,764,000</td>
</tr>
</tbody>
</table>

**ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL:**

$17,134,000

**Intersection Improvements - Specific Improvements to be Built or Funded by the Applicant:**

<table>
<thead>
<tr>
<th>Intersection Description</th>
<th>Estimated Cost ($, 10^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Intersection of Bulverde and Railroad Extension</td>
<td>$1,203,000</td>
</tr>
<tr>
<td>General Road at 10548 W IH-35 N</td>
<td>$70,000</td>
</tr>
<tr>
<td>General Road at 10548 W IH-35 N</td>
<td>$70,000</td>
</tr>
<tr>
<td>General Road at 10548 W IH-35 N</td>
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</tr>
<tr>
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<td>$70,000</td>
</tr>
<tr>
<td>General Road at 10548 W IH-35 N</td>
<td>$70,000</td>
</tr>
</tbody>
</table>

**INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL:**

$600,000

**Right-of-Way Dedication - ROW to be Dedicated by the Applicant:**

<table>
<thead>
<tr>
<th>Right-of-Way Dedication Description</th>
<th>ROW Cost Excluding ($, 10^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Road Extension</td>
<td>$1,203,000</td>
</tr>
<tr>
<td>Backroad</td>
<td>$1,203,000</td>
</tr>
</tbody>
</table>

**RIGHT-OF-WAY DEEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL:**

$6,325,325

**TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM:**

$9,159,325
Bulverde Market

• Roughly Proportionate Determination

<table>
<thead>
<tr>
<th>Supply/Demand Comparison:</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Impact of Demand Placed on Thoroughfare System</td>
<td>$9,280,094</td>
</tr>
<tr>
<td>Total Value of Capacity (Supply) Added to Thoroughfare System</td>
<td>$9,321,335</td>
</tr>
</tbody>
</table>

Based on the results of this rough proportionality analysis, the value of capacity (supply) provided by the proposed development roughly equals the anticipated impact of demand it places on the system. Therefore, the roadway improvements are roughly proportional to the demand placed on the system (i.e., the applicant is adding roughly the same amount of capacity as what is needed to support the development).

- Demand = $9,280,094 (proposed land uses)
- Supply = $9,321,335 (TIA + Border Streets)
- Roughly proportionate (within 5%)

‘Real’ Project Examples

1. Guiding Light Treatment Center
   - Low traffic impact development with a ROW dedication requirement

2. Bulverde Market
   - Large development, multiple land uses, ROW dedication, border streets, and numerous TIA recommendations

3. Thousand Oaks Commercial
   - Small commercial development
Thousand Oaks Commercial

- Site Plan and Land Uses
  - 3 driveways
  - Gas Station with 12 Fueling Stations
  - 7,000 ft² fast-food restaurant
Thousand Oaks Commercial

- Trip generation exceeds threshold for full TIA (76+ PHT)
- Identify relevant intersections and confirm with scoping meeting
  1. Identify study area
  2. Distribute PHT
  3. Assign PHT
  4. Identify intersections

Thousand Oaks Commercial

- Trip Distribution and Assignment

1 off-site intersection w/ 76+ PHT
### Thousand Oaks Commercial

#### Scoping Worksheet

<table>
<thead>
<tr>
<th>Background Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name:</td>
</tr>
<tr>
<td>Developer Representative:</td>
</tr>
<tr>
<td>Proposed land use:</td>
</tr>
<tr>
<td>Is the project located in the ETJ?</td>
</tr>
<tr>
<td>(If yes, then County will be involved in the review)</td>
</tr>
<tr>
<td>Include with worksheet:</td>
</tr>
<tr>
<td>X Site plan with diversion locations</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>THKA Scoping Meeting Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background Information</strong></td>
</tr>
<tr>
<td><strong>Developer Representative:</strong></td>
</tr>
<tr>
<td><strong>Proposed land use:</strong></td>
</tr>
<tr>
<td><strong>Is the project located in the ETJ?</strong></td>
</tr>
<tr>
<td><strong>Include with worksheet:</strong></td>
</tr>
<tr>
<td>X Site plan with diversions locations</td>
</tr>
</tbody>
</table>
**Thousand Oaks Commercial**

- **Scoping Worksheet**

<table>
<thead>
<tr>
<th>TIA Parameters</th>
<th>Developer Proposed</th>
<th>City Concurrence/ If no, identify modifications required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip Generation Method</td>
<td>ITE Trip Generation Equations</td>
<td>Yes</td>
</tr>
<tr>
<td>Site Build Out Year</td>
<td>2010</td>
<td>Yes</td>
</tr>
<tr>
<td>Background Traffic Growth Rate</td>
<td>2%</td>
<td>Yes</td>
</tr>
<tr>
<td>Proposed Build Periods</td>
<td>AM X PM X Other</td>
<td>Yes</td>
</tr>
<tr>
<td>Scenarios for Evaluation</td>
<td>(e.g. Existing, No Build, Build, or Planned Build Conditions)</td>
<td>Yes</td>
</tr>
<tr>
<td>Intersections for Analysis</td>
<td>(in addition to all site dimensions, if more than 5 intersections please attach list)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Thousand Oaks Commercial**

- **Conduct TIA**
  - Key intersection analysis results
    |---------------------------|-----------------|-----------------|--------------|
    | LOS D (35.5 sec/veh) | LOS D (37 sec/veh) | LOS D (49 sec/veh) |
  - Must identify mitigation to return LOS to within 20% of 37 seconds (44.4 seconds)
  - Assume $50,000 turn lane modification

- **ROW Dedication required along Thousand Oaks (20’ strip along 500’ of frontage)**
Thousand Oaks Commercial

- Appraised at $191,300 for 2.642 acres of unimproved property ($1.66 per ft$^2$)
- $(20')(500') = 10,000$ ft$^2$ (0.23 acres) dedication
- $(1.66)(10,000) = 16,600$

---

Thousand Oaks Commercial

- Demand calculation

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Development Unit</th>
<th>Parking Position</th>
<th>Area (1,000 SF GFA)</th>
<th>Peak Hour Trip Rate</th>
<th>Internal Capture Rate</th>
<th>Trip Generation Method</th>
<th>Demand (Vehicle-miles)</th>
<th>Impact of Development (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station w/ Island and Gas Tank</td>
<td>Parking Position</td>
<td>12</td>
<td>9.25</td>
<td>0%</td>
<td>1.00</td>
<td>Linear Rate</td>
<td>63.90</td>
<td>$144,100</td>
</tr>
<tr>
<td>Fast Food Restaurant w/ Drive-Thru</td>
<td></td>
<td>7</td>
<td>24.68</td>
<td>0%</td>
<td>1.00</td>
<td>Regression Equations</td>
<td>172.76</td>
<td>$335,180</td>
</tr>
</tbody>
</table>

**IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:** 235.76 **$540,245**
Thousand Oaks Commercial

• Supply calculation

![Supply Calculation Table]

Thousand Oaks Commercial

• Comparison

![Comparison Diagram]

Thousand Oaks Commercial

• Demand exceeds supply; therefore improvements are justified

![Demand Exceeds Supply Diagram]
Thousand Oaks Commercial

- What would change if the level of service results from the TIA looked like this?
  - No turn lane construction would have been required

- What would change if no ROW dedication was needed by the City?
  - No ROW dedication would have been required

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOS D (35.5 sec/veh)</td>
<td>LOS D (37 sec/veh)</td>
<td>LOS D (39 sec/veh)</td>
</tr>
</tbody>
</table>

UDC Training Session Overview

- 1:00 – 1:30: Introduction to Rough Proportionality and HB 1835
- 1:30 – 2:30: Overview of New San Antonio UDC Requirements
- 2:30 – 2:45: Q&A Session #1
- 2:45 – 3:00: Break
- 3:00 – 4:00: ‘Real’ Project Examples (3 Projects from Start to Finish)
- 4:00 – 4:30: Q&A Session #2
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Other Questions or Comments?

• Contacts:

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City of San Antonio
Rough Proportionality Training Session
January 14, 2010