City of San Antonio

Rough Proportionality Training Session

January 14, 2010

Kimley-Horn and Associates, Inc.

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

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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?

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The Legal Side

- Dolan vs. City of Tigard (1994)

A new pedestrian trail (above) weaves alongside a new electric and plumbing supply store in Tigard, Oregon, on land the owners refused to turn over to the city without compensation.

A plaque at the entrance to the trail (left) quotes the principle for which the owners, the Dolan family, fought.

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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

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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

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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

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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.

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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.

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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.

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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

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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

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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

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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

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What others are doing (as of 2008):

Metropolitan Area	Primary Funding Mechanism(s)
San Antonio, TX	*Border Street + TIAs*
Fort Worth, TX	Impact Fees
Houston, TX	Border Street + TIAs
Austin, TX	Border Street + Proportionality
Atlanta, GA	Impact Fees
Phoenix, AZ	Border Street + Impact Fees
Riverside, CA	Impact Fees
Sacramento, CA	Impact Fees
Las Vegas, NV	TIAs + Impact Fees
Orlando, FL	Impact Fees + Concurrency
Charlotte, NC	TIAs

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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

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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
- City/Developers expressed a desire to only require/make improvements when necessitated by the development

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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:

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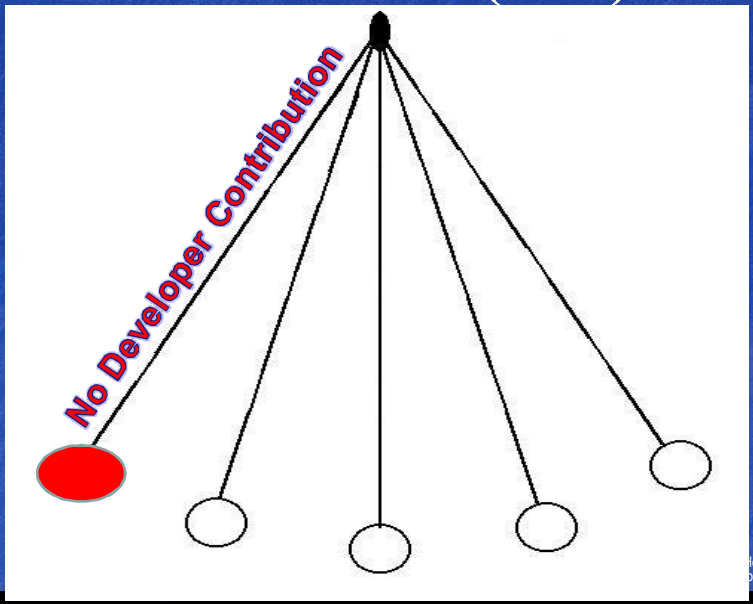
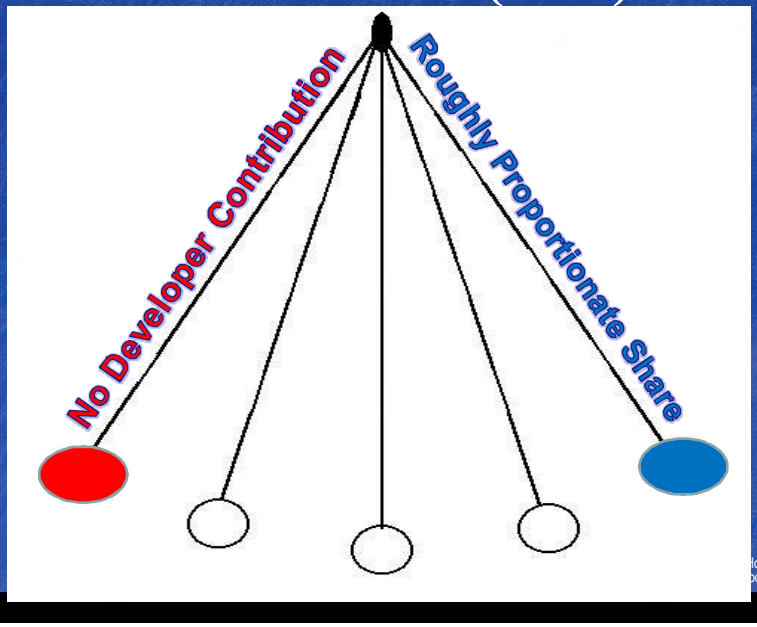
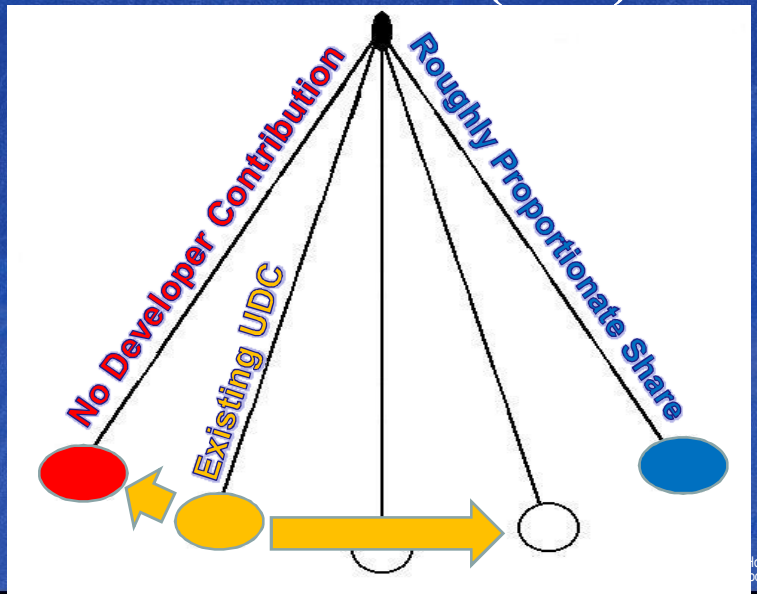
The 'Balanced' Solution (cont.)



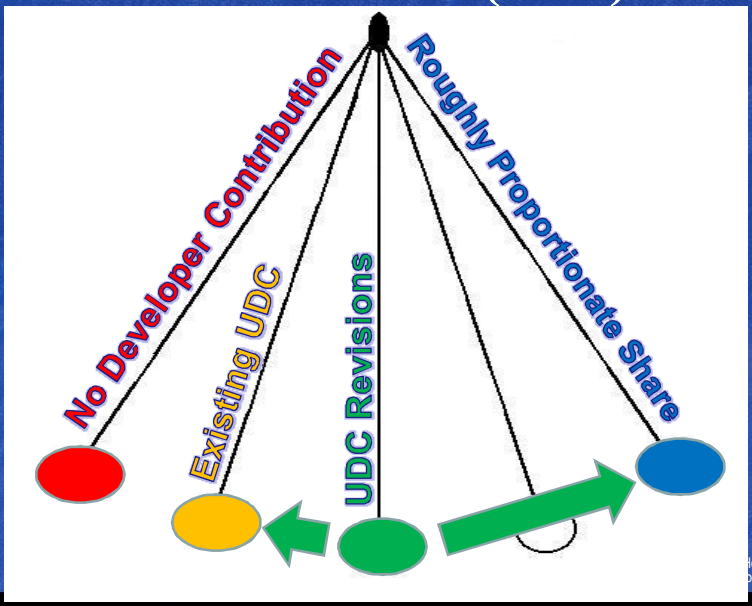
The 'Balanced' Solution (cont.)



The 'Balanced' Solution (cont.)



The 'Balanced' Solution (cont.)



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

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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

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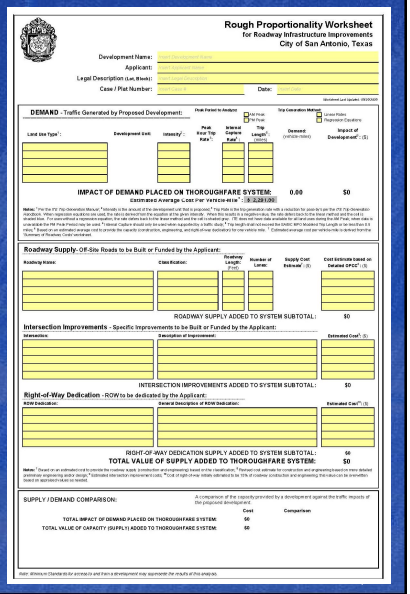
Proportionality Worksheet

- Development Info →
- Demand Calculation →
- Supply Calculation →
- Summary of Results →



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

Development Name:
Applicant:
Legal Description (Lot, Block):
Case / Plat Number:
Date:

DEMAND - Traffic Generated by Proposed Development:

Land Use Type | Development Unit | Intensity | Peak Hour Trip Rate | External Trip Rate | Trip Length (miles) | Demand (VMT/DU or VMT/KSF) | Impact of Development ($)

IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM: 0.00 $0

Estimated Average Cost Per Vehicle-Mile: $ 2,281.00

Roadway Supply - Off-Site Roads to be Built or Funded by the Applicant:

Roadway Name | Classification | Roadway Length (Feet) | Number of Lanes | Supply Cost Estimate ($) | Cost Estimate based on Detailed SPEC ($)

ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL: $0

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

Intersection | Description of Improvement | Estimated Cost ($)

INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL: $0

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

ROW Dedication | General Description of ROW Dedication: | Estimated Cost ($)

RIGHT-OF-WAY DEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL: $0
TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM: $0

SUPPLY / DEMAND COMPARISON:

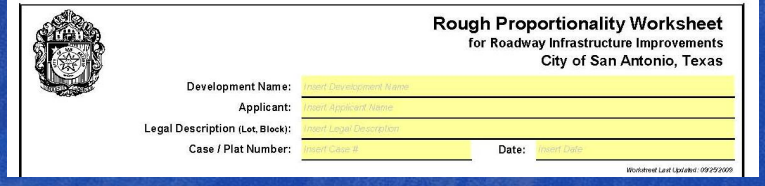
A comparison of the capacity provided by a development against the traffic impacts of the proposed development.

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$0	
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$0	

Note: Athens to Diamond is for example and that a development may supersede the results of this analysis.

Proportionality Worksheet (cont.)

- Development Information



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

Development Name: Insert Development Name
Applicant: Insert Applicant Name
Legal Description (Lot, Block): Insert Legal Description
Case / Plat Number: Insert Case # Date: Insert Date

Worksheet Last Updated: 09/29/2009

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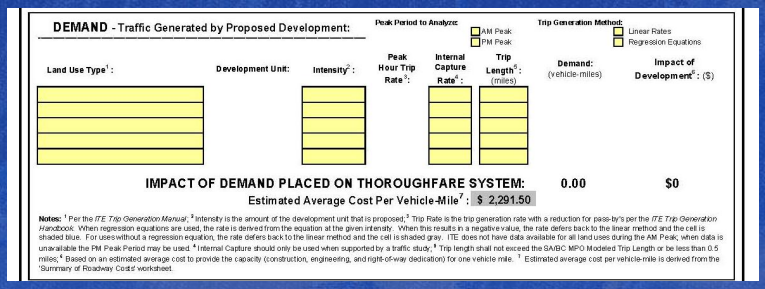
Proportionality Worksheet (cont.)

- Demand Calculation



DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: ☐ AM Peak ☐ PM Peak

Trip Generation Method: ☐ Linear Rates ☐ Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)

IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM: 0.00 $0

Estimated Average Cost Per Vehicle-Mile[7]: $ 2,291.50

Notes: [1] Per the *ITE Trip Generation Manual*; [2] Intensity is the amount of the development unit that is proposed; [3] Trip Rate is the trip generation rate with a reduction for pass-by's per the *ITE Trip Generation Handbook*. When regression equations are used, the rate is derived from the equation at the given intensity. When this results in a negative value, the rate defers back to the linear method and the cell is shaded blue. For uses without a regression equation, the rate defers back to the linear method and the cell is shaded gray. ITE does not have data available for all land uses during the AM Peak, when data is unavailable the PM Peak Period may be used. [4] Internal Capture should only be used when supported by a traffic study; [5] Trip length shall not exceed the SA/BC MPO Modeled Trip Length or be less than 0.5 miles; [6] Based on an estimated average cost to provide the capacity (construction, engineering, and right-of-way dedication) for one vehicle mile. [7] Estimated average cost per vehicle-mile is derived from the 'Summary of Roadway Costs' worksheet.

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Proportionality Worksheet (cont.)

- Supply Calculation

Roadway Supply - Off-Site Roads to be Built or Funded by the Applicant:

Roadway Name:	Classification:	Roadway Length: (Feet)	Number of Lanes:	Supply Cost Estimate[7]: ($)	Cost Estimate based on Detailed OPCC[8]: ($)

ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL: $0

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

Intersection:	Description of Improvement:	Estimated Cost[9]: ($)

INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL: $0

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

ROW Dedication:	General Description of ROW Dedication:	Estimated Cost[10]: ($)

RIGHT-OF-WAY DEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL: $0

TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM: $0

Notes: [7] Based on an estimated cost to provide the roadway supply (construction and engineering) based on the classification; [8] Revised cost estimate for construction and engineering based on more detailed preliminary engineering and/or design; [9] Estimated intersection improvement costs; [10] Cost of right-of-way initially estimated to be 15% of roadway construction and engineering; this value can be overwritten based on appraised values as needed.

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Proportionality Worksheet (cont.)

- Supply / Demand Comparison

SUPPLY / DEMAND COMPARISON:

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

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$0	
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$0	

Note: Minimum Standards for access to and from a development may supersede the results of this analysis.

- 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.

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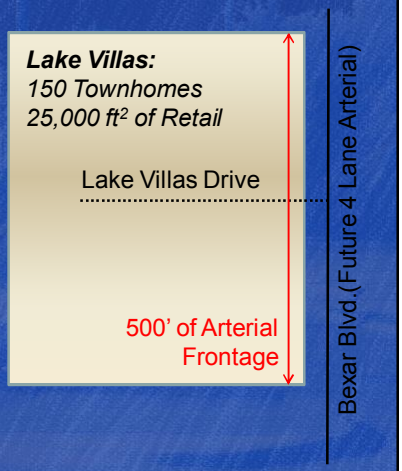
Sample Development

- 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?



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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

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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 / Plat Number:	SP-1-2009
Date:	September 30, 2009

Worksheet Last Updated: 09/25/2009

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Lake Villas Example (cont.)

- **Demand Calculation**

DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: ☐ AM Peak ☒ PM Peak

Trip Generation Method: ☒ Linear Rates ☐ Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)
Residential Condominium/Townhome	Dwelling Unit	150	0.52	0%	1.50	117.00	$268,106
Shopping Center	1,000 SF GFA	25	2.46	0%	1.50	92.25	$211,391
IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:						209.25	$479,497

Estimated Average Cost Per Vehicle-Mile[7]: $ 2,291.50

Notes: [1] Per the *ITE Trip Generation Manual*; [2] Intensity is the amount of the development unit that is proposed; [3] Trip Rate is the trip generation rate with a reduction for pass-by's per the *ITE Trip Generation Handbook*. When regression equations are used, the rate is derived from the equation at the given intensity. When this results in a negative value, the rate defers back to the linear method and the cell is shaded blue. For uses without a regression equation, the rate defers back to the linear method and the cell is shaded gray. ITE does not have data available for all land uses during the AM Peak; when data is unavailable the PM Peak Period may be used. [4] Internal Capture should only be used when supported by a traffic study; [5] Trip length shall not exceed the SA/BC MPO Modeled Trip Length or be less than 0.5 miles; [6] Based on an estimated average cost to provide the capacity (construction, engineering, and right-of-way dedication) for one vehicle mile. [7] Estimated average cost per vehicle-mile is derived from the 'Summary of Roadway Costs' worksheet.

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Lake Villas Example (cont.)

- Supply Calculation

Roadway Supply- Off-Site Roads to be Built or Funded by the Applicant:

Roadway Name:	Classification:	Roadway Length: (Feet)	Number of Lanes:	Supply Cost Estimate[7]: ($)	Cost Estimate based on Detailed OPCC[8]: ($)
Addition of Two Lanes of Bexar Boulevard	Primary Arterial	500	2	$252,000	$252,000

ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL: $252,000

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

Intersection:	Description of Improvement:	Estimated Cost[9]: ($)
Bexar Boulevard and Lake Villas Drive	Installation of a Traffic Signal	$150,000

INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL: $150,000

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

ROW Dedication:	General Description of ROW Dedication:	Estimated Cost[10]: ($)
Addition of Two Lanes of Bexar Boulevard		$37,800

RIGHT-OF-WAY DEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL: $37,800

TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM: $439,800

Notes: [7] Based on an estimated cost to provide the roadway supply (construction and engineering) based on the classification; [8] Revised cost estimate for construction and engineering based on more detailed preliminary engineering and/or design; [9] Estimated intersection improvement costs; [10] Cost of right-of-way initially estimated to be 15% of roadway construction and engineering; this value can be overwritten based on appraised values as needed.

Lake Villas Example (cont.)

- Supply / Demand Comparison

SUPPLY / DEMAND COMPARISON:

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

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$479,497	DEMAND > SUPPLY
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$439,800	109.03%

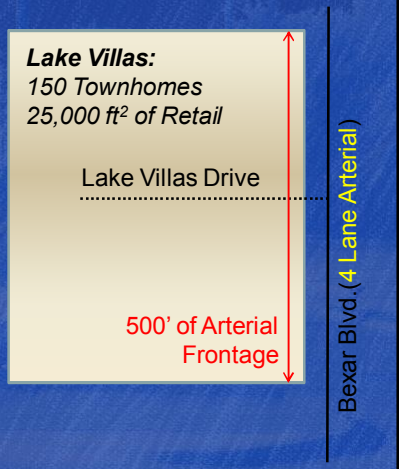
Based on the results of this rough proportionality analysis, the anticipated impact of demand on the system exceeds the value of capacity (supply) provided by the proposed development. Given these assumptions, the anticipated impact of demand of the development exceeds the value of capacity supplied by approximately 109.03%. Therefore, the roadway improvements required by the City are justified (i.e. the applicant is adding less capacity than needed to support their development).

Note: Minimum Standards for access to and from a development may supersede the results of this 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?



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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

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Lake Villas Example #2 (cont.)

- Supply / Demand Comparison

SUPPLY / DEMAND COMPARISON:

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

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$479,497	DEMAND > SUPPLY
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$150,000	319.66%

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 319.66%. Therefore, the roadway improvements required by the City are justified (i.e. the applicant is adding less capacity than needed to support their development).

Note: Minimum Standards for access to and from a development may supersede the results of this analysis.

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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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)

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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

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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

Kimley-Horn and Associates, Inc.

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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'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

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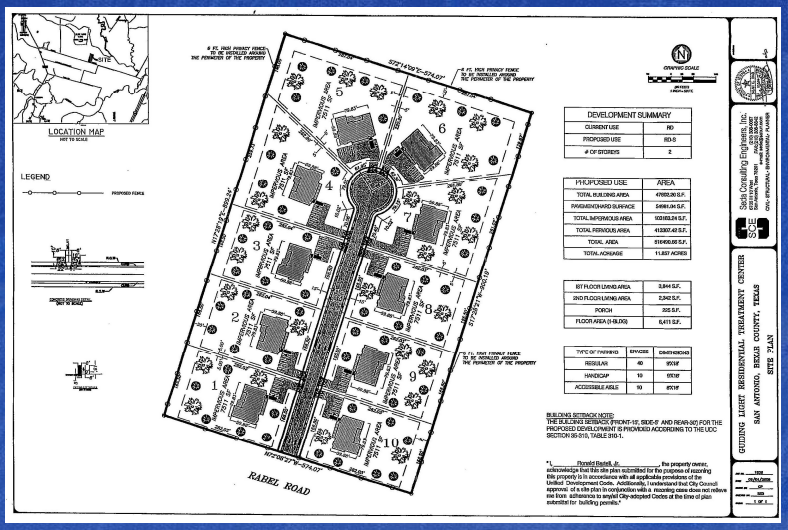
Guiding Light Treatment Center



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Guiding Light Treatment Center

Traffic Impact Analysis (TIA) Threshold Worksheet

Complete this form as an aid to determine if your project requires a Traffic Impact Analysis Study. Unified Development Code, Article V, Section 35-502.

Project Name: Guiding Light Residential Treatment Center — Location: 3625 Rabel Road, San Antonio, Bexar County

Threshold Work Sheet Prepared By: _____ — Date: _____ — Phone: _____

Address: _____ — ☐ Owner or ☐ Agent — Email: _____

Permit Type or Reason for TIA Study/Worksheet (Check one and indicate the number if known)

X	Zoning #: C2009001	MDP # or POADP#:	Plat #:	Bldg Permit #:	Other:

Proposed Type of Development (Multi building development or multi-occupancies may require additional tabulation sheets to determine total peak hour trips)

Anticipated Land/Building Use/Zoning	Project Size: Acres	GFA	# of Units	Critical Peak Hour	Peak Hour Trip Rate (PHT) Rate	Peak Hour Trips (PHT)	Trip Rate Source
Residential Treatment Center/10 homes/CRD-S	11.857		210 beds	PM	0.22	46	ITE Code: 254 Assisted Living

Previous Development on Site (Required for land with previous/current buildings occupied within 1 year of submittal or if Re-zoning property)

Previous Land/Building Use/Zoning	Size: Acres	GFA	# of Units	Critical Peak Hour	Peak Hour Trip Rate (PHT) Rate	Peak Hour Trips (PHT)	Trip Rate Source
Vacant	11.857						ITE Code:

Previous TIA Report (If property has a TIA on file) TIA #

Peak Hour Trips Projected in TIA on File	Peak Hour Trips Projected in *Updated* Development Plan

Difference in PHT (Proposed PHT – Previous Development PHT or TIA PHT)

Increase in Peak Hour Trips (If an increase of 76 PHT or an increase of 10% of the total PHT, a new TIA is required)
46

Turn Lane Requirements for Developments with Less Than 76 PHT (for developments with 76 or more PHT, this analysis will be included in the TIA)

Requirement	Right-turn lanes required at (identify street/driveway name)	Left-turn lanes required at (identify street/driveway name)
Median Openings	N/A	☐ _____ ☐ _____ X None
Driveways or streets with a daily entering right- or left-turn traffic volume of 500 vehicle trips or 50 vehicle peak hour trips	☐ _____ ☐ _____ X None	☐ _____ ☐ _____ X None
Required by TxDOT	☐ _____ ☐ _____ X None	☐ _____ ☐ _____ X None
Where unsafe conditions may exist (limited sight distance, high speed, uneven grade, etc.)	☐ _____ ☐ _____ X None	☐ _____ ☐ _____ X None

Comments

(For Official Use Only, Do Not Write in this Box)

☐ TIA report is required. X A TIA report is **not required**. The traffic generated by the proposed development does not exceed the threshold requirements.
☐ The traffic impact analysis has been waived for the following reasons: _____

Reviewed by: _____ Date: _____

NOTE: GFA = Gross Floor Area (bldg. size). ITE = Institute of Transportation Engineers, *Trip Generation*, 8th Edition. 525 School Street, S.W., Suite 410, Washington, DC 20024-2729; (202) 554-8050.

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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

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Guiding Light Treatment Center

- Conduct RPD (Compare Supply and Demand)

DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: ☐ AM Peak ☒ PM Peak

Trip Generation Method: ☒ Linear Rates ☐ Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)
Assisted Living	Beds	210	0.22	0%	1.00	46.20	$105,867

IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM: 46.20 $105,867

Estimated Average Cost Per Vehicle-Mile[7]: $ 2,291.50

Notes: [1] Per the *ITE Trip Generation Manual*; [2] Intensity is the amount of the development unit that is proposed; [3] Trip Rate is the trip generation rate with a reduction for pass-by's per the *ITE Trip Generation Handbook*. When regression equations are used, the rate is derived from the equation at the given intensity. When this results in a negative value, the rate defers back to the linear method and the cell is shaded blue. For uses without a regression equation, the rate defers back to the linear method and the cell is shaded gray. ITE does not have data available for all land uses during the AM Peak; when data is unavailable the PM Peak Period may be used. [4] Internal Capture should only be used when supported by a traffic study; [5] Trip length shall not (1) exceed the SA/BC MPO Modeled Trip Length, (2) exceed 1.5 miles, or (3) be less than 1.0 mile. [6] Based on an estimated average cost to provide the capacity (construction, engineering, and right-of-way dedication) for one vehicle mile. [7] Estimated average cost per vehicle-mile is derived from the 'Summary of Roadway Costs' worksheet.

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

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‘Real’ Project Examples

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   - Small commercial development

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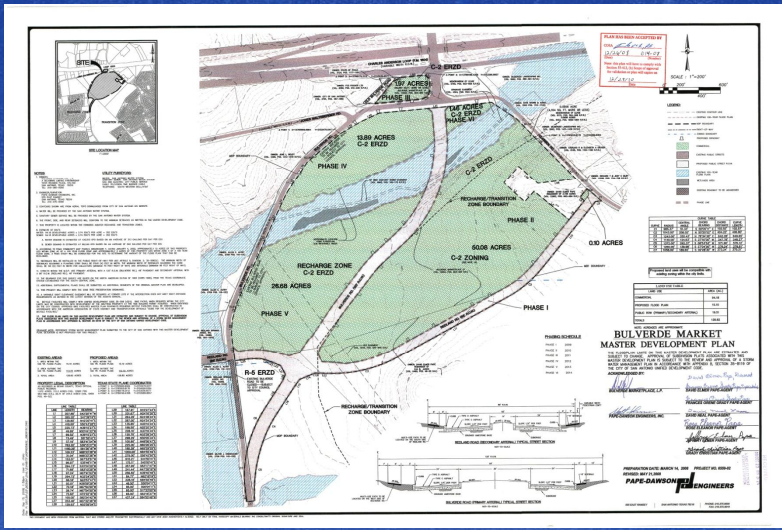
Bulverde Market



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Bulverde Market

- Trip generation requires a full TIA

Table 3: Net Projected Site Traffic – Unadjusted

Land Use	ITE Code	Size	Unit	AM Peak Hour Enter	AM Peak Hour Exit	PM Peak Hour Enter	PM Peak Hour Exit	Daily Total
Shopping Center	820	325	TGLA[a]	205	130	585	634	13,956
Free Standing Discount Store	815	60	TGSF[b]	34	16	152	152	3,361
Supermarket	850	90	TGSF[b]	178	114	480	461	9,202
Drive-In Bank	912	16	Lane	180	130	409	409	6,579
High Turnover (Sit-Down)	932	32.8	TGSF[b]	196	181	218	140	4,171
Fast-Food Restaurant with Drive-	934	23	TGSF[b]	605	404	307	295	16,468
Pharmacy with Drive-Thru	881	14.82	TGSF[b]	23	17	63	65	1,307
Automated Car Wash	948	4.6	TGSF[b]	0	0	32	32	0
Gasoline Service Station	944	10	VFP[c]	60	60	69	69	1,686
Hotel	310	140	Room	48	31	43	39	1,144
Subtotal				**1,529**	**1,084**	**2,358**	**2,296**	**57,871**
Total					**2,613**		**4,654**	**57,871**

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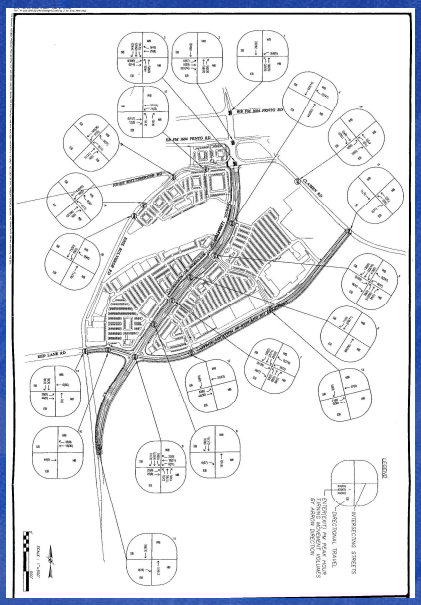
Bulverde Market

- '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



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Bulverde Market

- **Maximum Mitigation = $9,280,094**

DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: ☐ AM Peak ☒ PM Peak

Trip Generation Method: ☒ Linear Rates ☐ Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)
Shopping Center	1,000 SF GFA	325	2.46	0%	1.50	1,199.25	$2,748,081
Free-Standing Retail Store	1,000 SF GFA	60	3.50	0%	1.50	315.00	$721,823
Supermarket	1,000 SF GFA	90	6.72	0%	1.50	907.20	$2,078,849
Bank (Drive-In)	Drive-In Lanes	16	14.53	0%	1.50	348.72	$799,092
High Turnover (Sit-Down) Restaurant	1,000 SF GFA	32.8	6.36	0%	1.50	312.91	$717,033
IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:						**3,083.08**	**$7,064,878**

DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: ☐ AM Peak ☒ PM Peak

Trip Generation Method: ☒ Linear Rates ☐ Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)
Fast Food Restaurant with Drive-Thru	1,000 SF GFA	23	16.92	0%	1.50	583.74	$1,337,640
Pharmacy/Drugstore	1,000 SF GFA	14.82	5.28	0%	1.50	117.37	$268,953
Gasoline/Service Station	Fueling Position	10	8.04	0%	1.00	80.40	$184,237
Hotel	Room	140	0.59	0%	1.50	123.90	$283,917
Service Station w/ Market and Car Wash	Fueling Position	10	6.13	0%	1.00	61.30	$140,469
IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:						**966.71**	**$2,215,216**

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Bulverde Market

- **Border Streets + TIA Identified Improvements**

Roadway Supply - Off-Site Roads to be Built or Funded by the Applicant:

Roadway Name:	Classification:	Roadway Length: (Feet)	Number of Thru Lanes:	Supply Cost Estimate[7]: ($)	Cost Estimate based on Detailed OPCC[8]: ($)
Bulverde Road Extension	Secondary Arterial	4,100	4	$4,756,000	$4,756,000
Redland Rd	Secondary Arterial	4,100	2	$2,378,000	$2,378,000
ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL:					**$7,134,000**

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

Intersection:	Description of Improvement:	Estimated Cost[9]: ($)
New Intersection of Bulverde and Redland Extensions	Signalization	$150,000
Bulverde Road at 1604 WB FR	Addition of WB LT lane and extension of SB LT lane	$75,000
Bulverde Road at 1604 EB FR	Extension of EB RT lane	$25,000
Bulverde Road and Classen Rd / Bulverde & J-M	Addition of LT lane on EB and WB; Addition of SB RT and EB LT lanes	$150,000
New Intersection of Redland Rd Extension and Classen Rd	Signalization	$150,000
INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL:		**$550,000**

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

ROW Estimates have been manually adjusted

ROW Dedication:	General Description of ROW Dedication:	Estimated Cost[10]: ($)
Bulverde Road Extension	120' ROW at $2.45/sq ft	$1,205,400
Redland Rd	43' ROW at $2.45/sq ft	$431,935
RIGHT-OF-WAY DEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL:		$1,637,335
TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM:		**$9,321,335**

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Bulverde Market

- Roughly Proportionate Determination

SUPPLY / DEMAND COMPARISON:

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

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$9,280,094	SUPPLY ≈ DEMAND
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$9,321,335	99.56%

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%)

Kimley-Horn and Associates, Inc.

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   - Small commercial development

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Thousand Oaks Commercial

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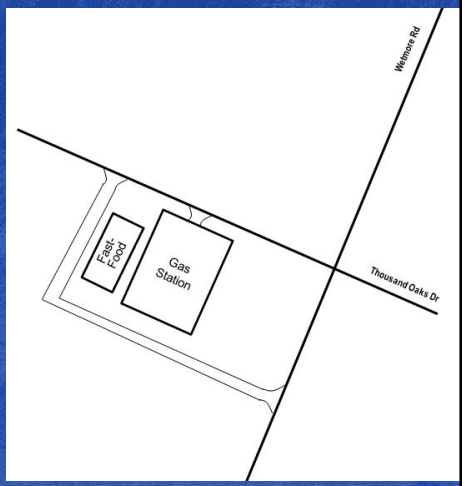
Thousand Oaks Commercial

- Site Plan and Land Uses
  - 3 driveways
  - Gas Station with 12 Fueling Stations
  - 7,000 ft^2 fast-food restaurant



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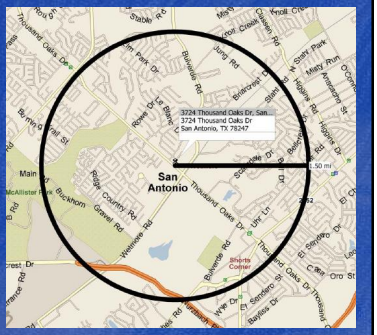
Thousand Oaks Commercial

- 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



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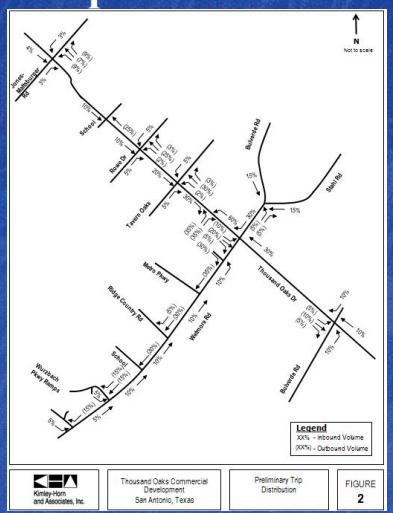
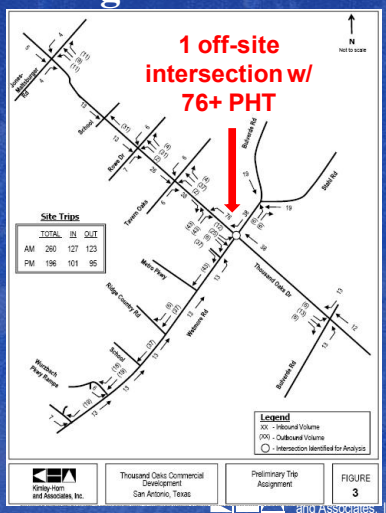
- Trip Distribution and Assignment





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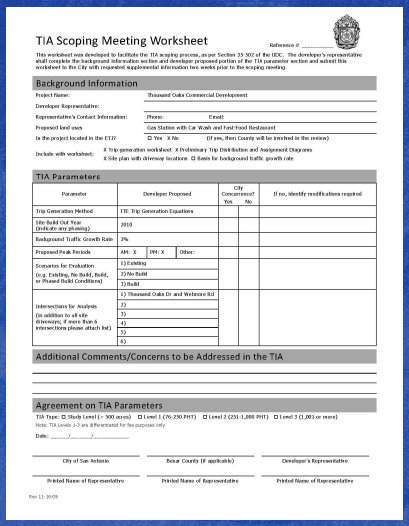
Thousand Oaks Commercial

- Scoping Worksheet



TIA Scoping Meeting Worksheet

Reference # _____

This worksheet was developed to facilitate the TIA scoping process, as per Section 35-502 of the UDC. The developer's representative shall complete the background information section and developer proposed portion of the TIA parameter section and submit this worksheet to the City with requested supplemental information two weeks prior to the scoping meeting.

Background Information

Project Name:	Thousand Oaks Commercial Development
Developer Representative:	
Representative's Contact Information:	Phone: Email:
Proposed land uses	Gas Station with Car Wash and Fast-Food Restaurant
Is the project located in the ETJ?	☐ Yes X No (If yes, then County will be involved in the review)
Include with worksheet:	X Trip generation worksheet X Preliminary Trip Distribution and Assignment Diagrams X Site plan with driveway locations ☐ Basis for background traffic growth rate

TIA Parameters

Parameter	Developer Proposed	City Concurrence? Yes	City Concurrence? No	If no, identify modifications required
Trip Generation Method	ITE Trip Generation Equations			
Site Build Out Year (Indicate any phasing)	2010			
Background Traffic Growth Rate	2%			
Proposed Peak Periods	AM: X PM: X Other:			
Scenarios for Evaluation (e.g. Existing, No Build, Build, or Phased Build Conditions)	1) Existing 2) No Build 3) Build			
Intersections for Analysis (in addition to all site driveways, if more than 6 intersections please attach list.)	1) Thousand Oaks Dr and Wetmore Rd 2) 3) 4) 5) 6)			

Additional Comments/Concerns to be Addressed in the TIA

Agreement on TIA Parameters

TIA Type: ☐ Study Level (> 500 acres) ☐ Level 1 (76-250 PHT) ☐ Level 2 (251-1,000 PHT) ☐ Level 3 (1,001 or more)

Note: TIA Levels 1-3 are differentiated for fee purposes only

Date: _____/_____/_____

City of San Antonio	Bexar County (if applicable)	Developer's Representative
Printed Name of Representative	Printed Name of Representative	Printed Name of Representative

Rev 11-16-09

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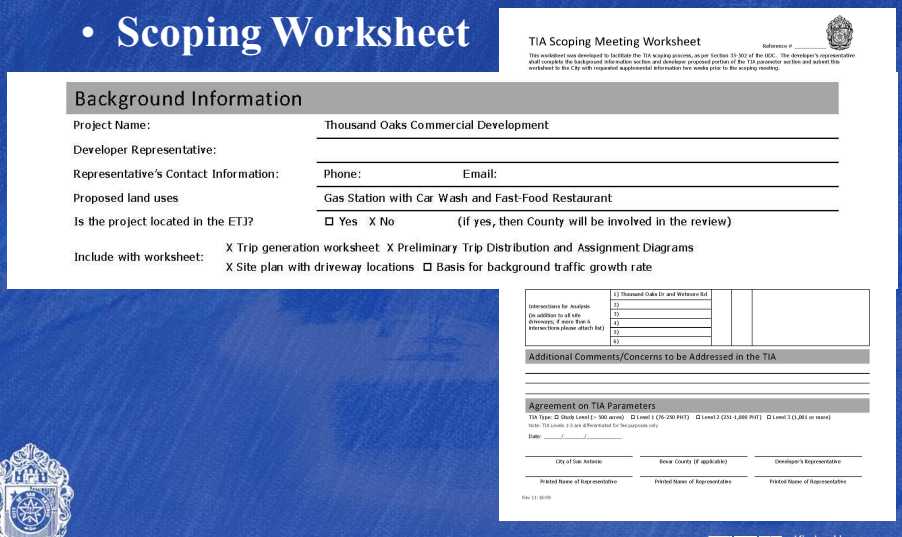
Thousand Oaks Commercial

- Scoping Worksheet



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Background Information

Project Name:	Thousand Oaks Commercial Development
Developer Representative:	
Representative's Contact Information:	Phone: Email:
Proposed land uses	Gas Station with Car Wash and Fast-Food Restaurant
Is the project located in the ETJ?	☐ Yes X No (If yes, then County will be involved in the review)
Include with worksheet:	X Trip generation worksheet X Preliminary Trip Distribution and Assignment Diagrams X Site plan with driveway locations ☐ Basis for background traffic growth rate

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Printed Name of Representative	Printed Name of Representative	Printed Name of Representative

Rev 11-16-09

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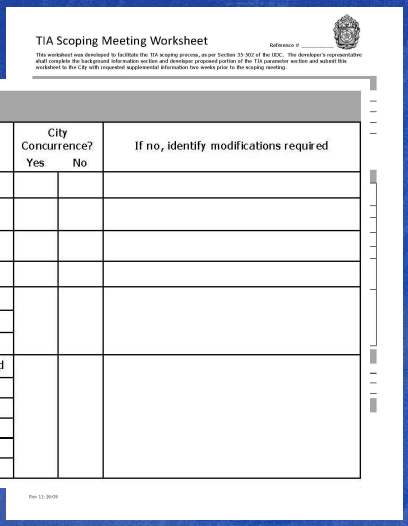
Thousand Oaks Commercial

- Scoping Worksheet



TIA Scoping Meeting Worksheet

Reference # _____

This worksheet was developed to facilitate the TIA scoping process, as per Section 15-302 of the UDC. The developer's representative shall complete the background information section and developer proposed portion of the TIA parameter section and submit this worksheet to the City with requested supplemental information two weeks prior to the scoping meeting.

TIA Parameters

Parameter	Developer Proposed	City Concurrence? Yes	No	If no, identify modifications required
Trip Generation Method	ITE Trip Generation Equations			
Site Build Out Year (indicate any phasing)	2010			
Background Traffic Growth Rate	2%			
Proposed Peak Periods	AM: X / PM: X / Other:			
Scenarios for Evaluation (e.g. Existing, No Build, Build, or Phased Build Conditions)	1) Existing 2) No Build 3) Build			
Intersections for Analysis (in addition to all site driveways; if more than 6 intersections please attach list)	1) Thousand Oaks Dr and Wetmore Rd 2) 3) 4) 5) 6)			

Rev 11-30-09

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Thousand Oaks Commercial

- Conduct TIA
  - Key intersection analysis results

	Existing (2010)	No-Build (2012)	Build (2012)
Thousand Oaks and Wetmore	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)

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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

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- Demand calculation

DEMAND - Traffic Generated by Proposed Development:

Peak Period to Analyze: [X] AM Peak [ ] PM Peak

Trip Generation Method: [X] Linear Rates [ ] Regression Equations

Land Use Type[1]:	Development Unit:	Intensity[2]:	Peak Hour Trip Rate[3]:	Internal Capture Rate[4]:	Trip Length[5]: (miles)	Demand: (vehicle-miles)	Impact of Development[6]: ($)
Service Station w/ Market and Car Wash	Fueling Position	12	5.25	0%	1.00	63.00	$144,365
Fast Food Restaurant with Drive-Thru	1,000 SF GFA	7	24.68	0%	1.00	172.76	$395,880
IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:						235.76	$540,245

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- Supply calculation

Roadway Supply - Off-Site Roads to be Built or Funded by the Applicant:

Roadway Name:	Classification:	Roadway Length: (Feet)	Number of Thru Lanes:	Supply Cost Estimate[7]: ($)	Cost Estimate based on Detailed OPCC[8]: ($)

ROADWAY SUPPLY ADDED TO SYSTEM SUBTOTAL: $0

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

Intersection:	Description of Improvement:	Estimated Cost[9]: ($)
Thousand Oaks Drive and Wetmore Road	Turn Lane	$50,000

INTERSECTION IMPROVEMENTS ADDED TO SYSTEM SUBTOTAL: $50,000

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

ROW Dedication:	General Description of ROW Dedication:	Estimated Cost[10]: ($)
Thousand Oaks	20' Strip along 500' of Thousand Oaks frontage @ $1.66/square foot	$16,600

RIGHT-OF-WAY DEDICATION SUPPLY ADDED TO SYSTEM SUBTOTAL: $16,600

TOTAL VALUE OF SUPPLY ADDED TO THOROUGHFARE SYSTEM: $66,600

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Thousand Oaks Commercial

- Comparison

SUPPLY / DEMAND COMPARISON:

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

	Cost	Comparison
TOTAL IMPACT OF DEMAND PLACED ON THOROUGHFARE SYSTEM:	$540,245	DEMAND > SUPPLY
TOTAL VALUE OF CAPACITY (SUPPLY) ADDED TO THOROUGHFARE SYSTEM:	$66,600	811.18%

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 811.18%. Therefore, the roadway improvements required by the City are justified (i.e. the applicant is adding less capacity than needed to support their development).

- Demand exceeds supply; therefore improvements are justified

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Thousand Oaks Commercial

- What would change if the level of service results from the TIA looked like this?

	Existing (2010)	No-Build (2012)	Build (2012)
Thousand Oaks and Wetmore	LOS D (35.5 sec/veh)	LOS D (37 sec/veh)	LOS D (39 sec/veh)

  - 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

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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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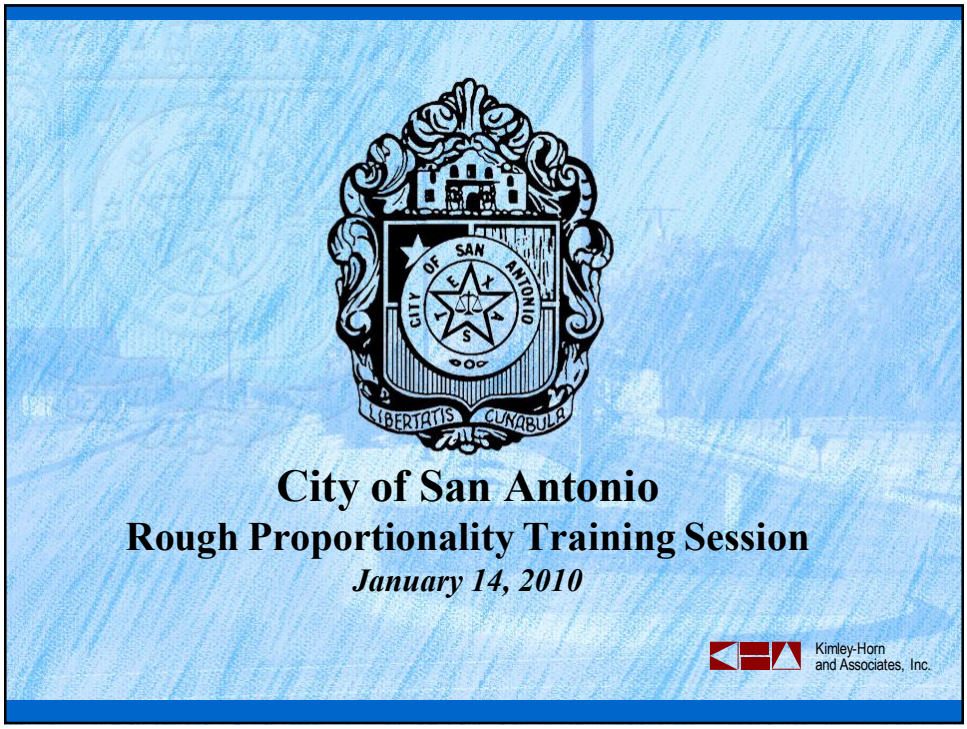
CITY OF SAN ANTONIO
LIBERTATIS CUNABULA
City of San Antonio
Rough Proportionality Training Session
January 14, 2010
Kimley-Horn
and Associates, Inc.