



Acknowledgements

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We would also like to thank the following committee members and MPO staff who worked to provided technical support and guidance throughout this process.

Policy Committee:

Pat. M. Ahumada, Jr. – (Chairman) City of Brownsville Mayor
John Wood – (Vice Chairman) County Commissioner
Manuel Alcocer – Airport Advisory Board
David Allex – Regional Mobility Authority
Charlie Atkinson – City of Brownsville Commissioner
Sofia Benavides – Cameron County Commissioner
Charles Cabler – City of Brownsville Manager
Lupita Carr – Alderwoman Town of Rancho Viejo
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Eddy Hernandez – Chamber of Commerce
David Hughston – Brownsville Economic Development Council
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Sergio T. Lopez – Brownsville Navigation District
David Winstead – Mayor City of Los Fresnos

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Tammy Sturm – TxDOT- TP & P
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MPO Staff Members:

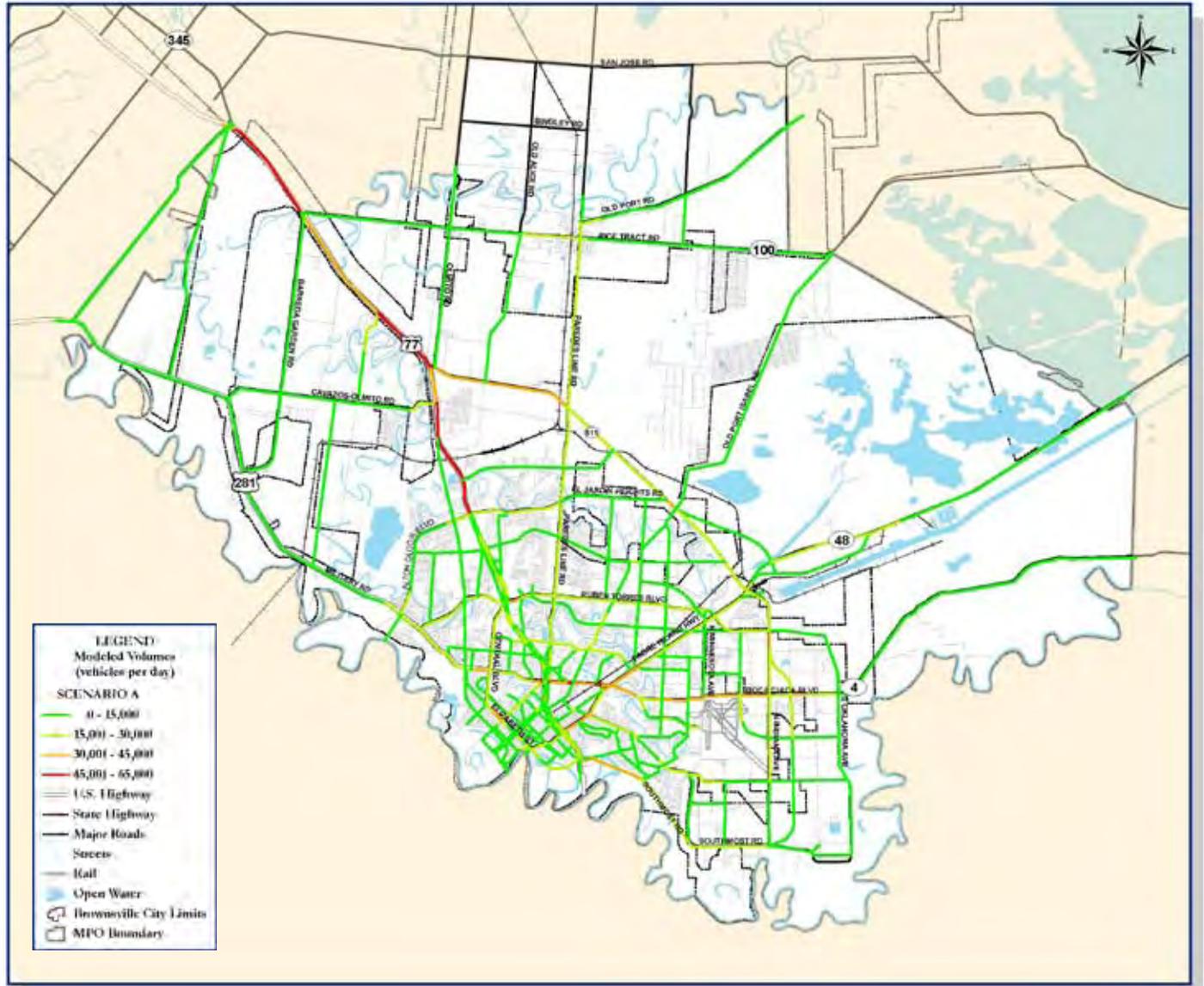
Mark Lund – Brownsville MPO Director (Technical Committee Member)
Alfonso Vallejo MPO – Transportation Planner (Technical Committee Member)
Alicia Justilian – Administrative Specialist II
Tom Logan – Bus Transit Planner (Technical Committee Member)

APPENDIX

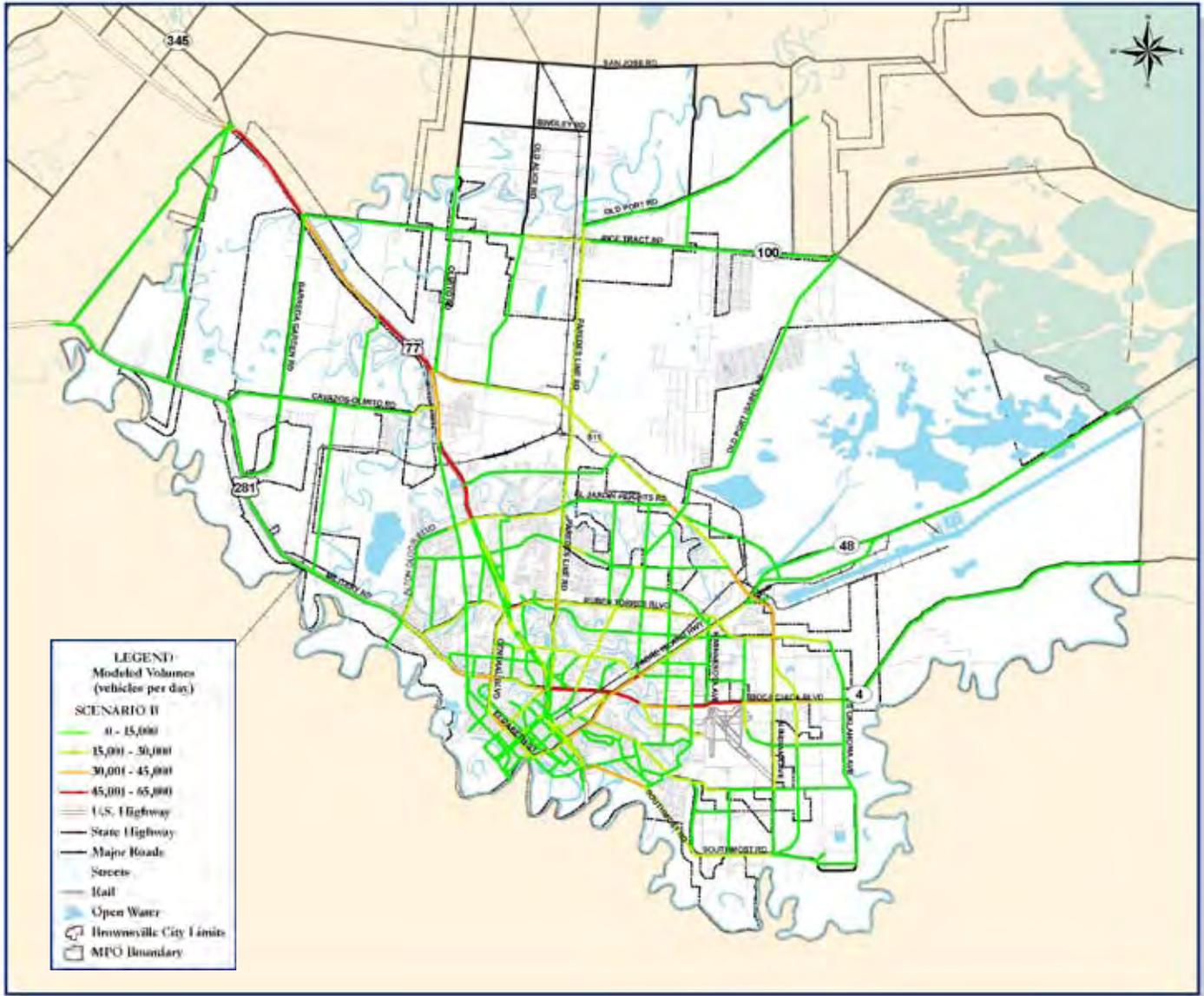


Scenario Volume Maps

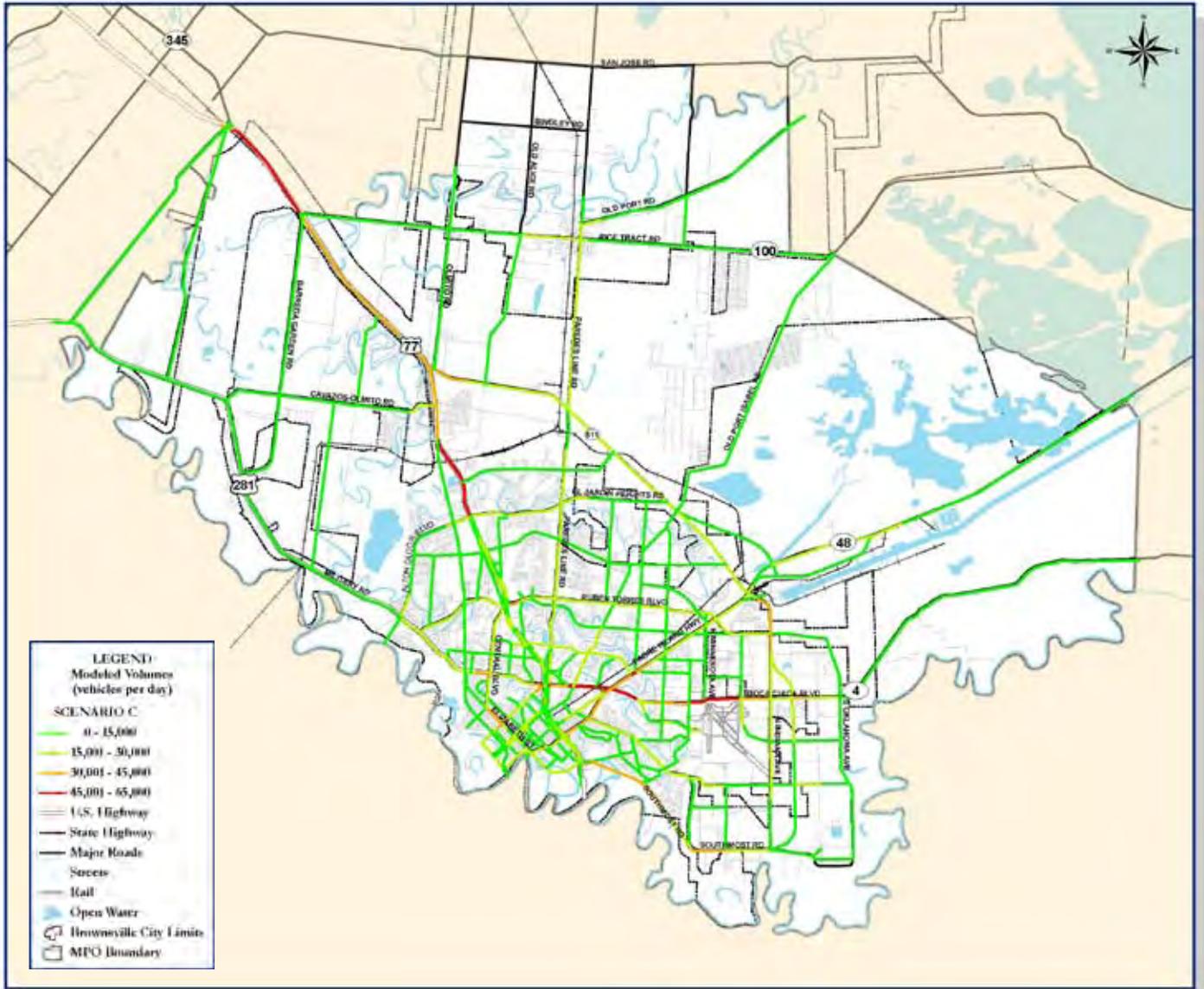
Scenario A - 2035 Travel Demand Model Volume



Scenario B - 2035 Travel Demand Model Volume



Scenario C - 2035 Travel Demand Model Volume





“Chip Game” Training Manual

The following text was provided to facilitators of the public workshops in preparation. This text outlines the process of the “Chip Game” used to create scenarios through public involvement.

Brownsville MPO Land Use Transportation Study Workshop

March 10 - 12, 2009

Facilitator Instructions

The workshop process is intended to challenge residents and stakeholders with the task of deciding where land use and transportation improvements should and should not occur within the region. Participants will be asked to grapple with the issues and trade-offs related to placing different types of land use types – and doing this within the constraints of population and employment projections for the future. In the workshop, the public will answer the key questions of:

- What kind of development and growth is preferred in the region?
- Where should this growth be located?

In the workshop, participants will be given a hands-on opportunity to place residential, employment and mixed-use land uses throughout the area along with drawing important transportation improvements needed. Following a detailed presentation on the current state of the region, future growth projections, and detailed workshop instructions, participants will work together in groups of 8-10 people to create their “vision” for the area. At each table the neutral facilitator, you, will provide support to familiarize participants with the materials and the process, answer questions and help resolve conflicts, and help the group complete the tasks within the time allotted. Each group will be asked to create a land use map for the region based on using a specific chipset created especially for the Brownsville MPO based on future demographics. For the workshops, a series of land use types will be represented by icons, or “chips” that are scaled to the base map. Each “chip” represents a specific land use type – and associated population and/or employment.

Each table can choose to start with one of three chipsets:

Each chipset will include the same total population and employment with a unique mix of chip types. A description of each land use type is provided in the chip materials. Once participants select a chipset, they will be asked to create a design for their map area. Participants can distribute the land use types across the study area using the stickers. Each group will put together their own combination of chips to create a vision. At the end of the workshop, each workshop table will present their design to the entire workshop group. The input gained from this workshop will be instrumental in informing the land use and transportation scenarios for testing and modeling.

The maps are the only mechanism to communicate the group’s ideas. Please encourage them to write, label, draw, sketch, cut, and paste all of their agreed-upon ideas on the map or in the margins. To maintain consistency and ensure consensus, you may have to write down their ideas often. The end result should be a map that is clear enough that the project team can easily interpret and input the groups’ ideas. The consultant team will be digitizing every chip placed and comment written on the maps.



Facilitator's Role

It is important that all participants have fun, learn what is involved in planning for the region, and inform the team about their desires. As a facilitator you should make sure that everyone has the opportunity to share his or her opinions and that areas of consensus are documented on the map.

As a facilitator you should be neutral. This may be difficult and you may hear things said that you believe are wrong. However, the workshop works best if participants are allowed to discover what works for them on their own. While there is no hard-and-fast rule, you should be fairly passive in your conduct. Use your expertise to help explain concepts or brainstorm new ideas. Intervene to channel participants' ideas onto the map, to aid them when they appear stuck, and to ensure they are accomplishing the steps outlined on the next page.

Engage both extroverts and introverts. One of your primary challenges as the facilitator will be to manage the personalities at the table. Each group will most likely contain a mix of gregarious extroverts and quiet introverts. Your role is to ensure that everyone's voice is heard. It will be natural for the extroverts to begin as the most active. This will break the ice and work to your advantage. As the exercise progresses, however, you may need to turn attention to the opinions of the quiet participants and ensure that the more outgoing group members speak in turn. Experience has shown that often quiet participants are in fact actively processing information and have many great ideas to share.

Set basic ground rules. Facilitators should set some basic ground rules with your table; the following are helpful examples:

- Focus on interests and ideas, not positions.
- Listen in order to understand everyone's ideas. Ask questions.
- Respect different viewpoints.
- All ideas count, even wild ones.
- Everybody should participate.
- Everyone shares responsibility for following the ground rules.

Land Use and Transportation Workshop Exercise

Please lead your group through the steps that follow. Next to each step number is an approximate duration of time. Please use these times as a guide only. Feel free to spend more or less time on a task, as needed, while keeping track of the overall schedule.

Step 1. (15 min.) *Introductions, Goal Setting & Deciding a Starter Chipset.* Take a moment for everyone to introduce themselves. Everyone should tell the group what he or she hopes to accomplish with this exercise. Each participant should write his/her name on the base map in the designated location and locate his/her home and workplace on the map to help them get oriented.

Identify the group's goals for the workshop map. Goals can include anything that has to do with land use and transportation in the region. Write the goals on the map. Throughout the session, you can return to the goals to make sure that the group is achieving what they set out to do. If your group members are having difficulty identifying goals, you can move on to the next step.

Introduce chip materials and choose a starter chipset. Go over the Transportation Chip Menu briefly. The menu shows that different transportation types are represented by chips (game pieces or stickers).



The Transportation Chip Menu” handouts summarize the chip type information shown in the presentation. Understanding the trade-offs in terms of cost, capacity and land use implications between these transportation types is fundamental to playing the workshop game. This will be discussed in the presentation, but you should have a good understanding of these types before facilitating the group.

Explain the chipset envelopes. The three starter chip envelopes on your table contain different combinations of transportation chips (which all add up to approximately the same population and employment). Now is the time for the table to choose which starter chipset it wants to use: trend, vibrant centers or hybrid?

TIME CHECK. About 20 or 30 minutes into the workshop, you should be ready to start experimenting with placing the chips on the map. Steps 2 – 4 should take about 45 minutes—this time is yours to spend as you see fit. Feel free to move back and forth between the steps.

Step 2. (30 min.) Place chips on the map. The central task of the game is to place chips on the map representing the group’s desired transportation changes in the region. The group can also return to its previously-identified goals as a starting point. As they place the chips, the participants should think of how these land use changes might relate to current and future transportation improvements in the region.

Encourage the participants to play with different ideas as the chips are moved around. This is the time to experiment with different themes. Don’t stick the chips down yet!

Trade and cut chips. With your guidance and the chip trading guide, participants can trade chips as the group sees fit. If the bank runs out of a particular chip which you need, you may pull chips from other chipsets. The participants can cut chips if they would like smaller increments of a particular chip type or for trading purposes.

Step 3. Review the map. Spend some time examining your new map. The group should make sure the previously-discussed goals have been met. Assess whether the group vision (the map) is consistent with these goals. Rearrange the chips if necessary.

Step 4. (15 min.) Stick chips on map: A “ten-minute warning” will be called. Once the group has finished arranging the chips on the map, peel off the backing and stick them down. If the group has any additional points to make, you can annotate the map with the pens provided. Please place any unused chips from your main chip envelope in the designated area on the map (this is very helpful as we digitize the map results). As participants stick the chips, have them think of a map name that captures the spirit of their map and choose a group member to present the map to the larger group.

Step 5. Name your map and choose a presenter (someone other than the facilitator).

Step 6. (10 min.) Present maps to the group. The project team will tell you when it is time to stop the discussion and make presentations to the rest of the workshop participants. A few tables will be chosen at random to present their maps to the group. Remind your presenter to tell the group about any specific goals that you were working toward or problems you were trying to solve.

Step 7. (5 min.) Next steps: After the individual tables have presented their maps, the project team will discuss conclusions and briefly outline the next steps in the Brownsville MPO Land Use and Transportation planning process.

Development Chip Types Used in the "Game"



Rural Living

Character & Intent

Rural living areas are characterized by very large lots, abundant open space, pastoral views, and a high-degree of separation between buildings. Residential home sites are located randomly throughout the countryside, which helps to maintain the rural character, scale, and scenic values of the surrounding area.

Land Use Considerations

Primary Land Uses

single-family detached homes, working farms, ranches

Secondary Land Uses

civic & institutional uses, parks, churches

Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	0 – 0.5 d.u./acre
Non-Residential Intensity Range	—
Prevailing Building Height	1 – 2 stories
Open Space Elements	Protected Natural Areas / Greenways / Stream Corridors
Street Pattern	Curvilinear
Typical Block Length	1,200 - 5,000 ft.
Street Connectivity	Low
Typical Street Cross Section	Rural Condition
Water / Sewer Service	Well / Septic

Precedent Photos



Suburban Neighborhood

Character & Intent

Suburban neighborhoods are found in close proximity to strip commercial corridors, which provide rooftops necessary to support the commercial and professional office uses within the corridors. These neighborhoods are generally formed as subdivisions, with residential densities ranging from 0.5 and 6.0 dwelling units per acre. Residential uses oriented interior to the site are typically buffered from surrounding development by transitional uses or landscaped areas.

Land Use Considerations

Primary Land Uses

single-family detached homes, duplexes, townhomes

Secondary Land Uses

civic & institutional uses, parks, churches

Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	0.5 – 6.0 d.u./acre
Non-Residential Intensity Range	—
Prevailing Building Height	1 – 2 stories
Open Space Elements	Community Parks / Greenways / Stream Corridors
Street Pattern	Curvilinear
Typical Block Length	1,200 - 2,500 ft.
Street Connectivity	Low
Typical Street Cross Section	Suburban Condition
Water / Sewer Service	Municipal

Precedent Photos





Multifamily Suburban Neighborhood

Character & Intent

Multifamily suburban neighborhoods are found in close proximity to suburban centers, which provide rooftops necessary to support the commercial and professional office uses within the center. These neighborhoods support the highest density residential developments in suburban landscape, and may contain one of the following housing types: duets, condominiums, or apartments. Residential uses oriented interior to the site are typically buffered from surrounding development by transitional uses or landscaped areas.

Land Use Considerations

Primary Land Uses

duets, condominiums, apartments

Secondary Land Uses

civic & institutional uses, parks, churches

Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	6.0 – 16.0 d.u./acre
Non-Residential Intensity Range	—
Prevailing Building Height	3 – 6 stories
Open Space Elements	Community Parks / Greenways / Stream Corridors
Street Pattern	Modified Grid
Typical Block Length	1,200 - 1,500 ft.
Street Connectivity	Low
Typical Street Cross Section	Suburban Condition
Water / Sewer Service	Municipal

Precedent Photos



Industrial Park

Character & Intent

Industrial parks provide basic jobs and keep people in the city during normal work hours. They typically locate near major transportation corridors (e.g., highways and railways) and may include manufacturing centers, transportation hubs, or technology centers. Clusters of uses that support or serve one another should be encouraged to locate in the same industrial park.

Land Use Considerations

Primary Land Uses

manufacturing centers, transportation hubs, technology centers, light industrial

Secondary Land Uses

civic & institutional uses, commercial (serving primarily industrial buildings), parks, churches

Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	—
Non-Residential Intensity Range	0.10 – 0.25 FAR
Prevailing Building Height	1 – 2 stories
Open Space Elements	Pocket Parks / Stream Corridors
Street Pattern	Modified Grid
Typical Block Length	1,000 - 1,500 ft.
Street Connectivity	Medium
Typical Street Cross Section	Suburban Condition
Water / Sewer Service	Municipal

Precedent Photos



Business Park

Character & Intent

Business parks provide basic jobs and keep people in the city during normal work hours. They typically locate near major transportation corridors (e.g., highways and railways) and may include office parks or technology centers. Clusters of uses that support or serve one another should be encouraged to locate in the same business park.

Land Use Considerations

Primary Land Uses

professional office, corporate campus, university, research and development, technology centers

Secondary Land Uses

civic & institutional uses, commercial (serving primarily industrial buildings), parks, churches

Precedent Photos



Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	—
Non-Residential Intensity Range	0.20 – .35 FAR
Prevailing Building Height	1 – 4 stories
Open Space Elements	Pocket Parks / Stream Corridors
Street Pattern	Modified Grid
Typical Block Length	1,200 - 1,800 ft.
Street Connectivity	Medium
Typical Street Cross Section	Suburban Condition
Water / Sewer Service	Municipal

Strip Commercial Corridor

Character & Intent

A strip commercial corridor is characterized by big box stores or multi-tenant commercial centers located along both sides of a highway or arterial. Strip commercial centers are accessible primarily by automobile. Buildings are typically set back from the road behind large surface parking lots, with little or no connectivity between adjacent businesses.

Land Use Considerations

Primary Land Uses

general commercial services, restaurants, multi-tenant commercial, big box commercial, professional office

Secondary Land Uses

civic & institutional uses, parks

Precedent Photos



Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	—
Non-Residential Intensity Range	0.20 – 0.25 FAR
Prevailing Building Height	1 story
Open Space Elements	Stream Corridors
Street Pattern	—
Typical Block Length	—
Street Connectivity	—
Typical Street Cross Section	—
Water / Sewer Service	Municipal



Suburban Regional Activity Center

Character & Intent

Suburban regional activity centers are emerging mixed-use centers planned or developed with large-scale master plans. Centers include a variety of housing types and densities, employment opportunities, and commercial uses that serve a regional scale. The master plan for a suburban regional activity center reinforces the interdependence of uses in the development, even though the uses are typically designed as separate pods or neighborhoods.

Land Use Considerations

Primary Land Uses

Single-family detached homes, duets, condominiums, apartments, senior housing, hotels, professional office, corporate campus, restaurants, multi-tenant commercial, big box commercial, live/work/shop units

Secondary Land Uses

civic & institutional uses, parks

Precedent Photos



Place-Making Qualities

General Development Pattern	Mix of Uses
Residential Density Range	4.0 – 12.0 d.u./acre
Non-Residential Intensity Range	0.20 – 0.35 FAR
Prevailing Building Height	1 – 6 stories
Open Space Elements	Pocket Parks / Public Plazas / Stream Corridors
Street Pattern	Modified Grid
Typical Block Length	800 – 1,500 ft.
Street Connectivity	Medium
Typical Street Cross Section	Suburban Condition
Water / Sewer Service	Municipal



Urban Neighborhood

Character & Intent

Urban neighborhoods support a mix of moderate- to high-density housing options. These neighborhoods are relatively compact and walkable, and may contain one or more of the following housing types: small lot, single-family detached, townhomes, condominiums, or apartments. The design and scale of the development in an urban neighborhood encourages active living, with a complete and comprehensive network of walkable streets.

Land Use Considerations

Primary Land Uses

single-family detached homes, townhomes, condominiums, apartments

Secondary Land Uses

civic & institutional uses, parks, community buildings

Precedent Photos



Place-Making Qualities

General Development Pattern	Isolated Uses
Residential Density Range	6.0 – 12.0 d.u./acre
Non-Residential Intensity Range	—
Prevailing Building Height	1 – 4 stories
Open Space Elements	Village Green / Pocket Parks / Public Plazas / Stream Corridors
Street Pattern	Grid
Typical Block Length	600 – 1,200 ft.
Street Connectivity	High
Typical Street Cross Section	Urban Condition
Water / Sewer Service	Municipal



Mixed-Use Neighborhood

Character & Intent

A mixed-use neighborhood offers residents the ability to live, shop, work, and play in one community. They include a mixture of housing types and residential densities within close proximity to the goods and services residents need on a daily basis. A small urban square supports commercial uses in the neighborhood. The design and scale of the development in a mixed-use neighborhood encourages active living, with a complete and comprehensive network of walkable streets.

Land Use Considerations

Primary Land Uses

single-family detached homes, duets, townhomes, condominiums, apartments, senior housing, restaurants, neighborhood-serving commercial, professional office, live/work/shop units

Secondary Land Uses

civic & institutional uses, parks, community buildings

Place-Making Qualities

General Development Pattern	Mix of Uses
Residential Density Range	4.0 – 10.0 d.u./acre
Non-Residential Intensity Range	0.35 – 0.50 FAR
Prevailing Building Height	2 – 4 stories
Open Space Elements	Village Green / Pocket Parks / Public Plazas / Stream Corridors
Street Pattern	Grid
Typical Block Length	600 – 1,200 ft.
Street Connectivity	High
Typical Street Cross Section	Urban Condition
Water / Sewer Service	Municipal

Precedent Photos



Town Center

Character & Intent

Town centers are locally-serving areas of economic, entertainment, and community activity. The size of a town center makes it an employment center and shopping destination for surrounding mixed-use or urban neighborhoods. Buildings typically stand two or more stories with condominiums or apartments over storefronts. The design and scale of the development in a town center encourages active living, with a comprehensive and interconnected network of walkable streets.

Land Use Considerations

Primary Land Uses

single-family detached homes, duets, townhomes, condominiums, apartments, senior housing, restaurants, community-serving commercial, professional office, live/work/shop units

Secondary Land Uses

civic & institutional uses, parks, community buildings

Place-Making Qualities

General Development Pattern	Mix of Uses
Residential Density Range	16.0 – 18.0 d.u./acre
Non-Residential Intensity Range	0.5 – 1.0 FAR
Prevailing Building Height	2 – 4 stories
Open Space Elements	Village Greens / Pocket Parks / Public Plazas / Stream Corridors
Street Pattern	Grid
Typical Block Length	600 – 1,200 ft.
Street Connectivity	High
Typical Street Cross Section	Urban Condition
Water / Sewer Service	Municipal

Precedent Photos





Metropolitan Center

Character & Intent

A metropolitan center is the focal point of the region. It is the hub of employment, shopping, entertainment, civic, and cultural activities, with a mix of housing types and common open space for active living. As a magnet to surrounding towns and neighborhoods, the metropolitan center becomes the iconic symbol for the region, starting with historic buildings and the structure of the local street network. The compact, walkable environment and mix of residential and non-residential uses in a metropolitan center support multiple modes of transportation.

The Brownsville Central Business District is an example of a metropolitan center for the ___ Region.

Land Use Considerations

Primary Land Uses

condominiums, apartments, restaurants, community-serving commercial, professional office, live/work/shop units, museums, government buildings

Secondary Land Uses

civic & institutional uses, parks, community buildings

Precedent Photos



Place-Making Qualities

General Development Pattern	Mix of Uses
Residential Density Range	12.0 – 25.0 d.u./acre
Non-Residential Intensity Range	1.0 – 2.0 FAR
Prevailing Building Height	2 – 8 stories
Open Space Elements	Village Greens / Pocket Parks / Public Plazas / Stream Corridors
Street Pattern	Grid
Typical Block Length	300 – 800 ft.
Street Connectivity	High
Typical Street Cross Section	Urban Condition
Water / Sewer Service	Municipal



Resources Concerning Development Best Practices

The following web sites and organizations can provide stakeholders with additional resources to better educate themselves with respect to current or development best practices.

American Institute of Architects — www.aia.org

This organization provides best practices with respect to the built environment. They also relate to walkable areas and creating livable centers.

American Planning Association — www.planning.org

This organization is an independent, not-for-profit educational organization that provides leadership in the development of vital communities.

Brownsville Metropolitan Planning Organization — www.cob.us/mpo/

The MPO's website has the latest information regarding MPO-sponsored studies, transportation plans and policies, as well as public notices and upcoming meetings.

Complete Streets — www.completestreets.org

This organization specializes in the connectivity of our bike and walk network. This organization looks to improve our ability to use our cars less.

Congress for New Urbanism — www.cnu.org

As taken from their web site this group is "a growing movement, New Urbanism recognizes walkable, human-scaled neighborhoods as the building blocks of sustainable communities and regions."

Federal Highway Administration — www.fhwa.dot.gov/planning/scenplan/resources.htm

The Federal Highway Administration not only helps to fund local improvements and sets standards, but also provides resource. Specifically, the above web site was created to look at scenario planning tools and has several resources available.

Green Building Council — www.usgbc.org

A leader in reducing our impact on the environment, the Green Building Council is the founder of the LEED certification.

Institute of Transportation Engineers — www.ite.org

A leader in the area of transportation, the institute has spearheaded research in context sensitive solutions or the link between land use and transportation and how our communities should adapt to changing environments.

Texas Trails Network — www.texas-trails.org

As mentioned at their web site, the Texas Trails Network "has been promoting quality development and management of trails, providing a forum to address trail-related concerns, and advocating a statewide trails system network."

Urban Land Institute — www.uli.org

The mission of the Urban Land Institute is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. This organization provides resources for land preservation and the affects of land consumption.