

IMAGINE



Draft Alternative Futures Working Paper

Imagine Austin Comprehensive Plan



IMAGINE
AUSTIN

Plan Your Future!

WRT DRAFT Document: reviewed by City of Austin and Citizens Advisory Task Force



Draft, Revised September 20, 2019

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INTRODUCTION

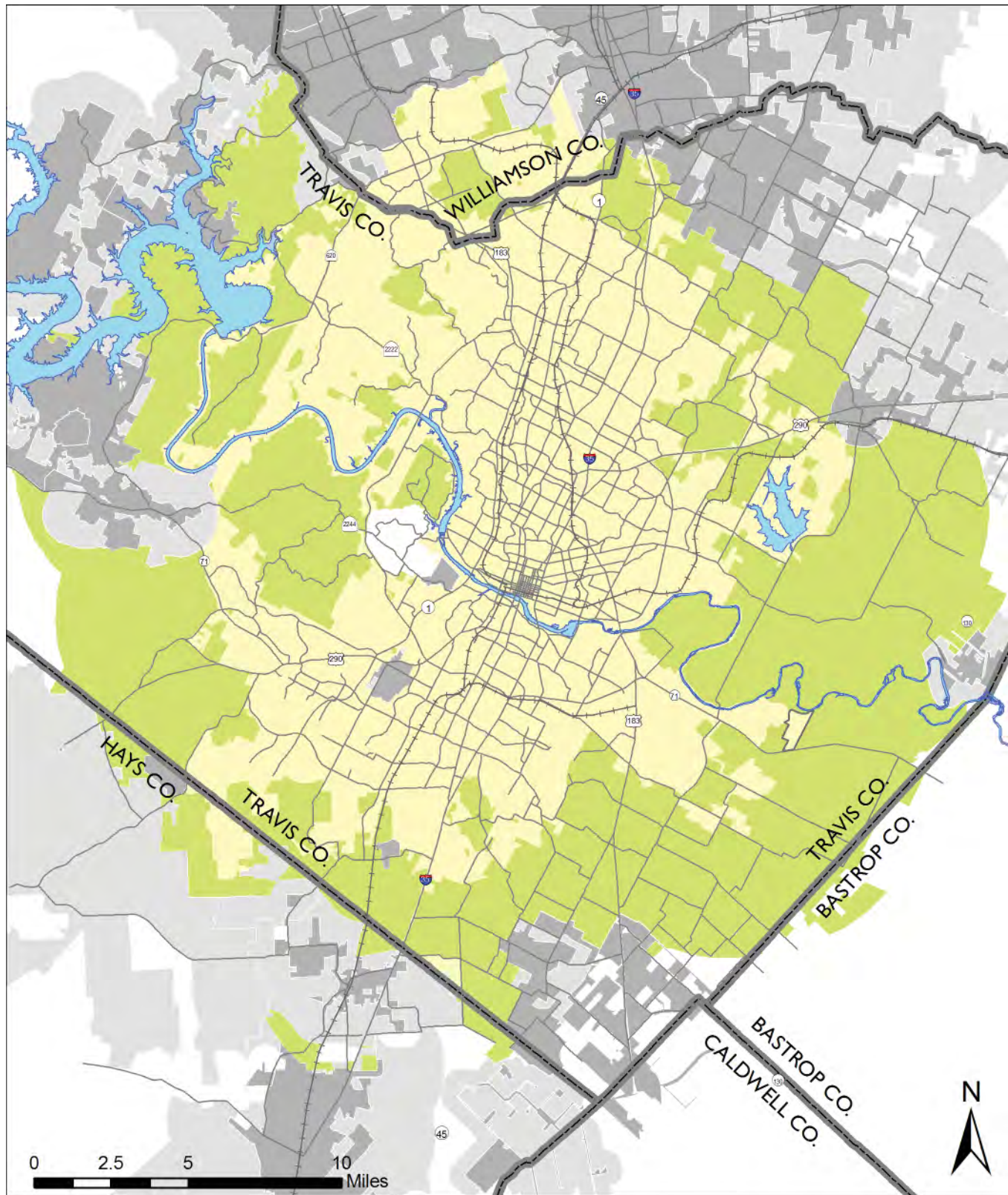
Background on the Austin Comprehensive Plan

The City of Austin is in the process of developing **Imagine Austin**, Austin's long-range comprehensive plan that will shape the future of Austin for the next generation. The planning process began in August 2009 with the completion of a public participation plan - to define how the community will be broadly and meaningfully engaged in the process - and an open house kick-off meeting and celebration. During Community Forum Series #1 (CFS#1) in November 2009, residents were asked to come up with strengths, challenges, and ideas for Austin's future. To broaden the reach of the community-wide meetings held in November, this phase included a statistically valid survey, smaller public meetings, an online survey, and neighborhood meeting-in-a-box activities.

Using all the input gathered from nearly 6,000 participants during CFS#1, the city and Citizen Advisory Task Force created a draft vision statement for review by the public during Community Forum Series #2 (CFS#2). Participants overwhelmingly supported the draft elements of the vision statement. In addition, the City of Austin held a series of workshops during CFS#2 at which residents worked in groups to create future growth maps using land use chips and transportation stickers. A second community-wide effort, "Speak Week" placed small teams of volunteers and city staff at booths around the city and the Austin Extra-territorial Jurisdiction (ETJ) in places where people already gather (e.g., parks, festivals, stores, and community centers). Speak Week enabled the city to hear from a broader audience on the draft vision statement and the future directions for Austin.



During the upcoming Community Forum Series #3 – Choices, residents will be asked to select components of a preferred scenario for Austin's future growth and development and provide more specific direction on each of the comprehensive plan elements.



City of Austin Jurisdiction and Neighboring Municipalities

Legend

- | | |
|--|--|
| Austin - City Limits | Other City Limits |
| Austin - Extra-territorial Jurisdiction | Other ETJs |

Figure 1. The City of Austin Limits and Extra-territorial Jurisdiction (ETJ) cover a large geographic area, approximately 620 square miles in area..

EXISTING CONDITIONS SNAPSHOT

Population and Land Use Trends

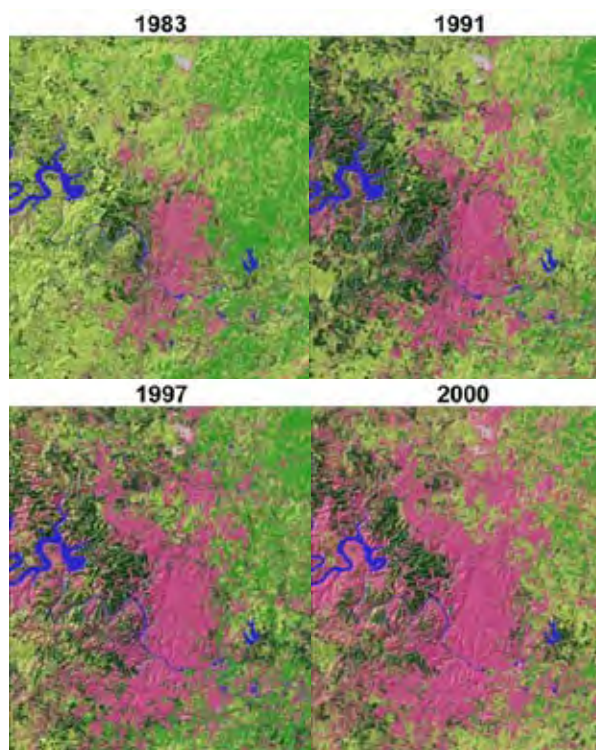
In general, the growth dynamic in Austin and the surrounding region over the last fifty years has been characterized by steady population growth, land consumption, and outward expansion. During the 20th century, Austin's population grew at an annual rate of about 3.5% per year (close to doubling every 20 years). Recently, the annual growth rate had slowed to about 1.6%.

Overall population density (persons per square mile) began to steadily decrease in the 1950's continuing through 1990. The annual rate of land consumption exceeded the annual rate of population growth during that time. Between 1990 and 2007, however, population density increased. Figure 2 (to the right) illustrates areas converted from rangeland uses to urban uses between 1983 and 2000 using USGS satellite imagery.

Environmental resources, political and regulatory conditions, transportation, public water and sewer systems all shape development patterns. Environmental features, such as the Hill Country to the west and Blackland Prairie to the east, have shaped the city in a primarily north-south development pattern split by the Colorado River.

The State Capitol Building, Austin City Hall, Austin Convention Center, and University of Texas at Austin (located north of Downtown), combine with commercial areas, condominiums, hotels, and cultural uses to make up a concentrated central downtown core.

Single-family neighborhoods, located throughout Austin and the ETJ, represent the most common type of land use (17% of the total area). Multi-family residential uses includes condominiums, town homes, and three and four-plexes and represent 3% of total land use. Multi-family student oriented housing is generally located west of the University of Texas, but also in the Riverside area southeast of downtown and far west. Additional multi-family areas are clustered around major thoroughfares providing access to employment and commercial uses. There are few mixed-use areas in Austin.



Source: U.S. Geological Survey

Figure 2. Recent Land Consumption, 1983-2000.

Source: Austin Community Inventory, U.S. Geological Survey

Open space accounts for 16% of total land area and includes parks, recreation areas, and preserves (e.g., Balcones Canyonland National Wildlife Area, Barton Creek Wilderness Area, and the Walter E. Long Metro Park).

Major commercial corridors separate single-family neighborhoods throughout Austin. Large commercial and office developments are located at major intersections along I-35, U.S. 183, and Highway 290. Over the years Austin has developed a large high-tech employment industry, initially located in Northwest Austin, which has now also shifted east. Major employment and institutional uses include the Austin Independent School District (ISD), City of Austin, the federal government, University of Texas at Austin, IBM, Dell, and the Seton Healthcare Network.

SCENARIO DEVELOPMENT

Scenario Development and Community Choices

According to best available demographic information, Austin and its ETJ will likely be home to about 750,000 additional residents and 300,000 additional jobs by 2035, a continuation of the steady growth trend.

During **Community Forum Series #2** (April – June 2010), residents provided input as to the development patterns and transportation network they would like to see used to accommodate this future growth. At the forums and follow-up meetings, residents created over 60 separate maps describing Austin's future.

In reviewing the 60+ maps generated by the public, city staff identified four common patterns. In early June, city staff, consultants, and Task Force members participated in a two-day workshop to fine-tune these similarities into four alternative future scenarios, keeping the essence of the patterns derived from the original maps while adjusting them to be as realistic as possible. In addition to the four scenarios based on public input, city staff developed a trend scenario that represents what the pattern of development and the transportation system might look like if current trends continue. All five scenarios represent the same amount of growth but accommodate that growth in different ways.

SCENARIOS AND INDICATORS DEFINED

- **Scenarios** are stories about how the world changes and how it could change in the future. **Scenario planning** is a process in which citizens and planners assess existing land and transportation patterns and their own values to create a desirable future scenario.¹
- The **Trend Scenario** represents what Austin might look like in the future if current trends continue without a long-term vision or new interventions.
- A set of quantitative **Indicators** compare the scenarios and measure how consistent each scenario is with the components of Austin's draft vision for the future.

¹ Engaging the Future: Forecasts, Scenarios, Plans, and Projects. Edited by Lewis D. Hopkins and Marisa A. Zapata. 2007. Lincoln Land Institute of Land Policy.



At **Community Forum Series #3 (CFS #3) - Community Choices**, participants will see the four alternative future scenarios and the trend scenario side-by-side and will be asked to provide input on how well they think the scenarios fit with Imagine Austin's draft vision for the future. The input from the community forum will be used to develop a preferred future scenario, which will incorporate the parts of the alternatives that received the most positive feedback.

Through the Community Choices Forum and surveys, residents will be asked to choose which scenario they prefer. Each scenario will be accompanied by a brief description and a set of indicators. The indicators show how the scenarios compare to one another with regard the direction set by the draft vision. However, not all topics of concern in the Imagine Austin process are affected by the spatial pattern of development or transportation as reflected in the scenarios. Residents will also be asked about other non-geographically based topics as part of the Community Choices survey, such as creativity, affordability, and health care.

SCENARIO DESCRIPTIONS AND MAPS

The following scenarios describe five different patterns of population and employment growth supported by transportation improvements. The first four scenarios represent four different concepts, developed with public input, to describe in very general terms how Austin's population and employment growth might be arranged in the future. In other words, they describe four common ideas expressing how residents would like to see Austin develop in the future.

The final scenario, or the Trend Scenario, was developed by city staff and represents a best guess as to how Austin will develop if current trends continue. The Trend Scenario provides a benchmark for measuring how effective the different scenarios are in moving Austin towards the vision.

Each scenario has a unique distribution of population and employment; therefore, the transportation ideas for each scenario are also unique. Improvements common to all scenarios are the projects that are currently planned and committed through the region's MPO, (CAMPO)'s Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP), unless otherwise specified in the scenario description. In addition, two transit projects - LoneStar Rail and the City of Austin Urban Rail planned alignment (Airport-Downtown-Mueller) - are consistent among all scenarios.



1. Scenario A

Scenario A spreads growth throughout the study area (i.e., the present city limits and ETJ). A few areas are targeted for infill and redevelopment, but most growth occurs on currently undeveloped land. While this scenario does have a number of mixed-use centers proposed (about half of all development is mixed-use), a significant portion of the growth takes the form of separate, low-density land uses. Scenario A represents 131 square miles of developed land.

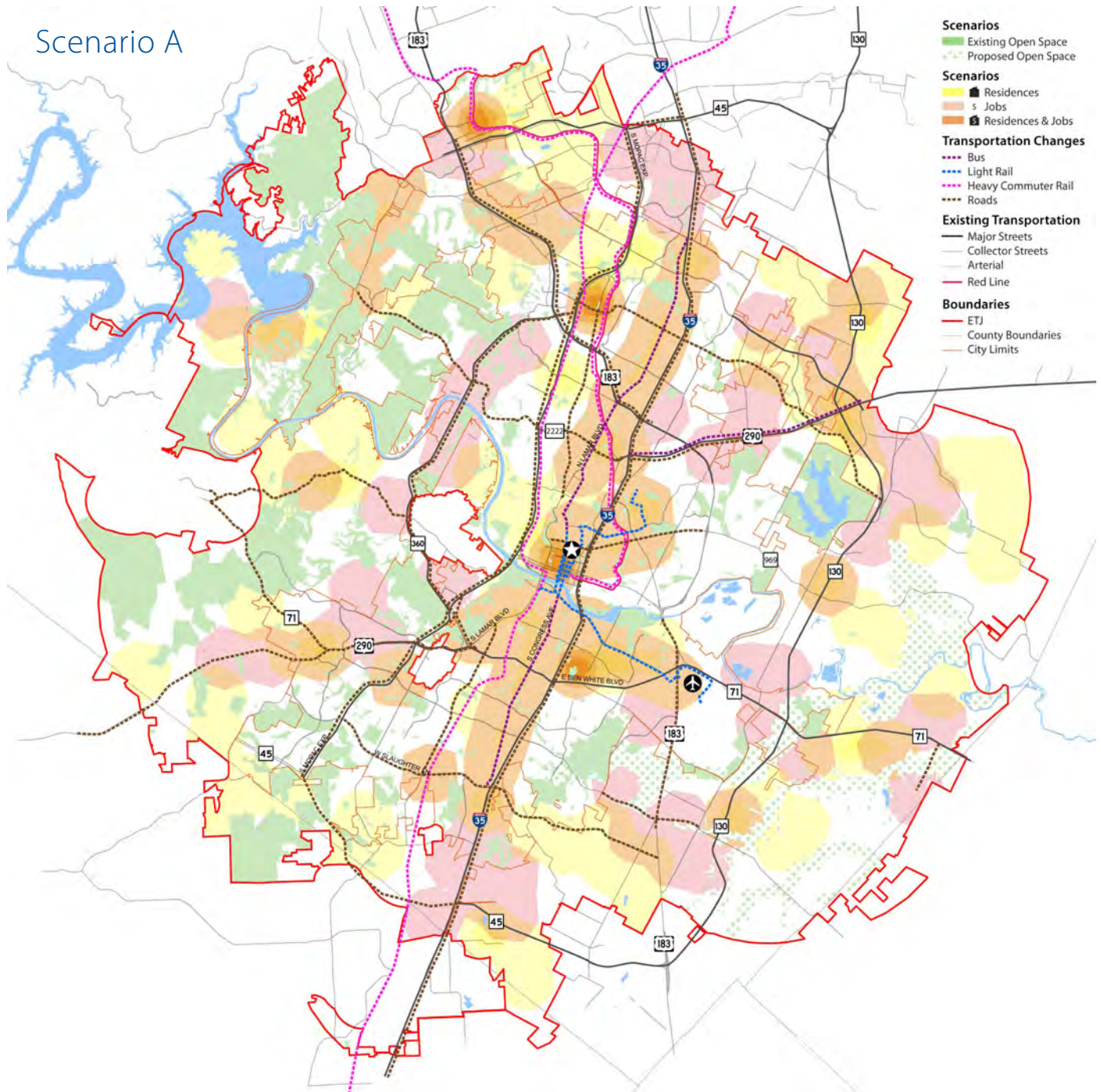
Transportation improvements include increased road capacity for both arterials and freeways. Many of the most congested freeways in Austin will experience capacity improvements (i.e., IH 35, Mopac, US 183, and US 290) in the form of new travel lanes, HOV lanes, and utility relocation.

Due to the lower-density growth pattern in this scenario, transit improvements are more focused on bus rather than rail infrastructure. Express bus routes (MetroRapid) are planned for Guadalupe/Lamar from downtown to IH 35 in the north, along US 290 from Manor Road to downtown, and along South Congress. This combination of road and transit improvements reflects the most feasible way to accommodate the distributed growth patterns in this scenario. Scenario A includes 112 miles of bike/pedestrian paths.

Selected Summary Indicators

- » **Represents 131 sq miles of developed land.**
- » **52% of new development is mixed-use.**
- » **45% of new development occurs as redevelopment or infill.**
- » **49% of residents live within a ¼ mile of transit routes and stops.**
- » **Average vehicle miles traveled per day is 21.4 miles.**
- » **Average distance for all residents to the closest job is 0.2 miles.**
- » **34 square miles of development (26%) occurs over the Barton Springs aquifer (within aquifer recharge or contributing zones). Currently 83 sq miles of development is within aquifer recharge or contributing zones.**
- » **Estimated cost of new infrastructure (water and sewer service, schools, + transportation) is \$ 22.6 billion.**
- » **41% of population within ¼ mile of an existing park/schoolyard.**
- » **104 square miles of existing farmland are not developed by the scenario. Currently there are 151 sq miles of existing farmland.**

Scenario A



Revised August 8, 2010

2. Scenario B

Scenario B is similar to Scenario A, except that growth is directed away from environmentally sensitive areas in the western part of the study area and instead directed to undeveloped land in the eastern part of the study area or redevelopment/infill to the north and south. This scenario has a slight shift upward in density from Scenario A and represents 124 square miles of development.

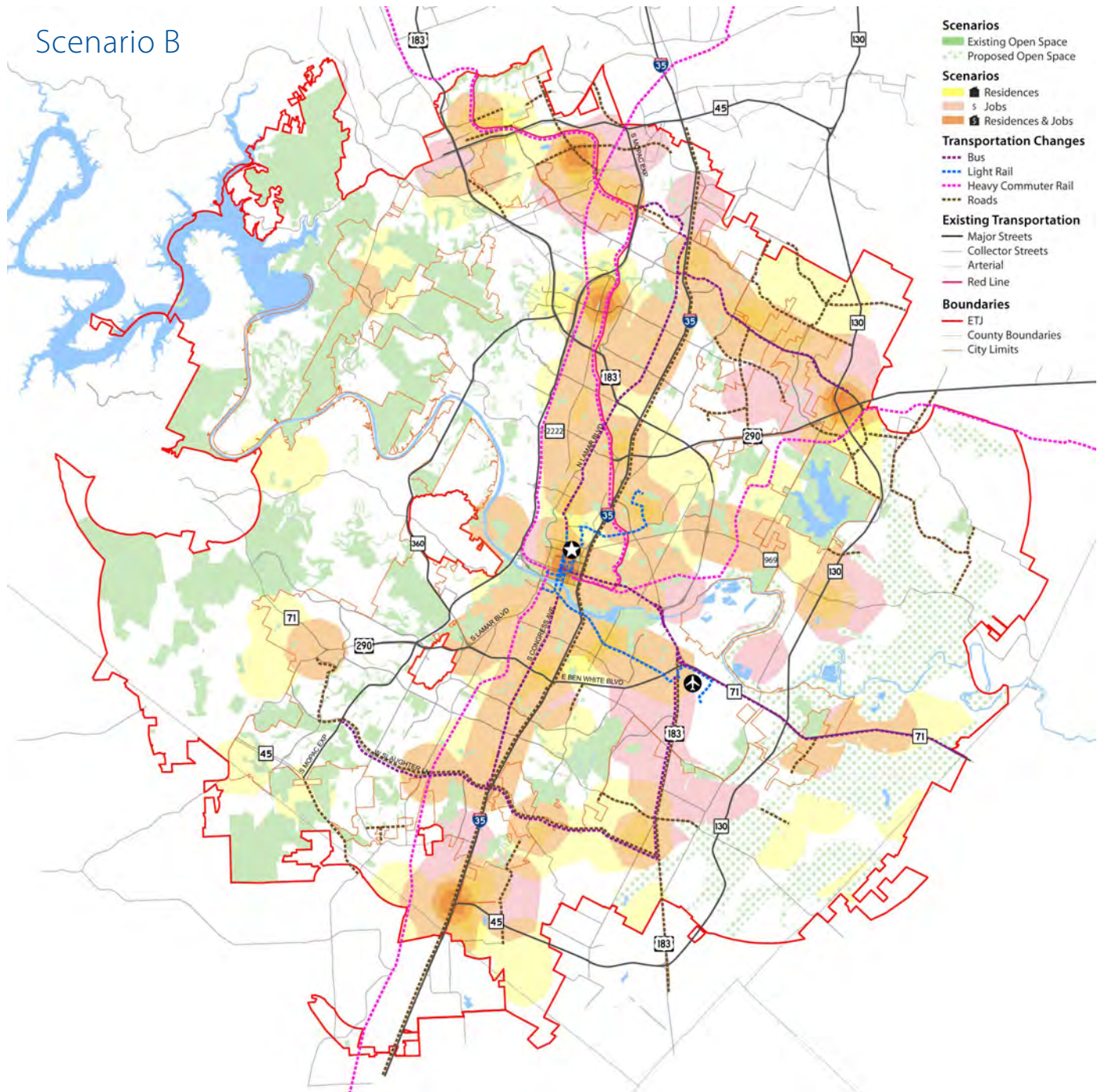
The majority of transportation improvements are focused in the same areas as new growth. New road arterials are planned, although the only freeway improvements are on IH 35 and US 183 south of the Austin-Bergstrom International Airport. Capacity improvements, in the form of new travel lanes, ROW acquisition, and utility relocation are included for IH 35, US 183, and SH 45 SW.

Transit improvements in this scenario are more varied than in Scenario A and include the use of both bus and rail infrastructure to improve commuting in the city. Both South Congress and North Guadalupe/Lamar have express bus facilities planned, with additional express bus corridors planned on Parmer Lane in the north, along William Cannon to South US 183, and along SH 71 past the airport connecting to downtown through 7th Street. The only additional rail line is the line connecting Elgin and Manor Road to downtown Austin. Scenario B includes 220 miles of bike/pedestrian paths.

Selected Summary Indicators

- » **Represents 124 sq miles of developed land.**
- » **59% of new development is mixed-use.**
- » **49% of new development occurs as redevelopment or infill.**
- » **50% of residents live within a ¼ mile of transit routes and stops.**
- » **Average vehicle miles traveled per day is 20.9 miles.**
- » **Average distance for all residents to the closest job is 0.17 miles.**
- » **21 square miles of development (17%) occurs over the Barton Springs aquifer (within aquifer recharge or contributing zones). Currently 83 sq miles of development is within aquifer recharge or contributing zones.**
- » **Estimated cost of new infrastructure (water and sewer service, schools, + transportation) is \$22.3 billion.**
- » **39% of population within ¼ mile of an existing park/schoolyard.**
- » **111 square miles of existing farmland are not developed by the scenario. Currently there are 151 sq miles of existing farmland.**

Scenario B



Revised August 8, 2010

3. Scenario C

Scenario C is more compact than Scenarios A and B, with a focus on concentrating growth at transit stations or highway intersections. The predominant land use pattern at each of these locations is a mixed-use center surrounded by some single use areas. There is far less low density housing in this scenario than in the first two scenarios. Scenario C represents 99 square miles of development.

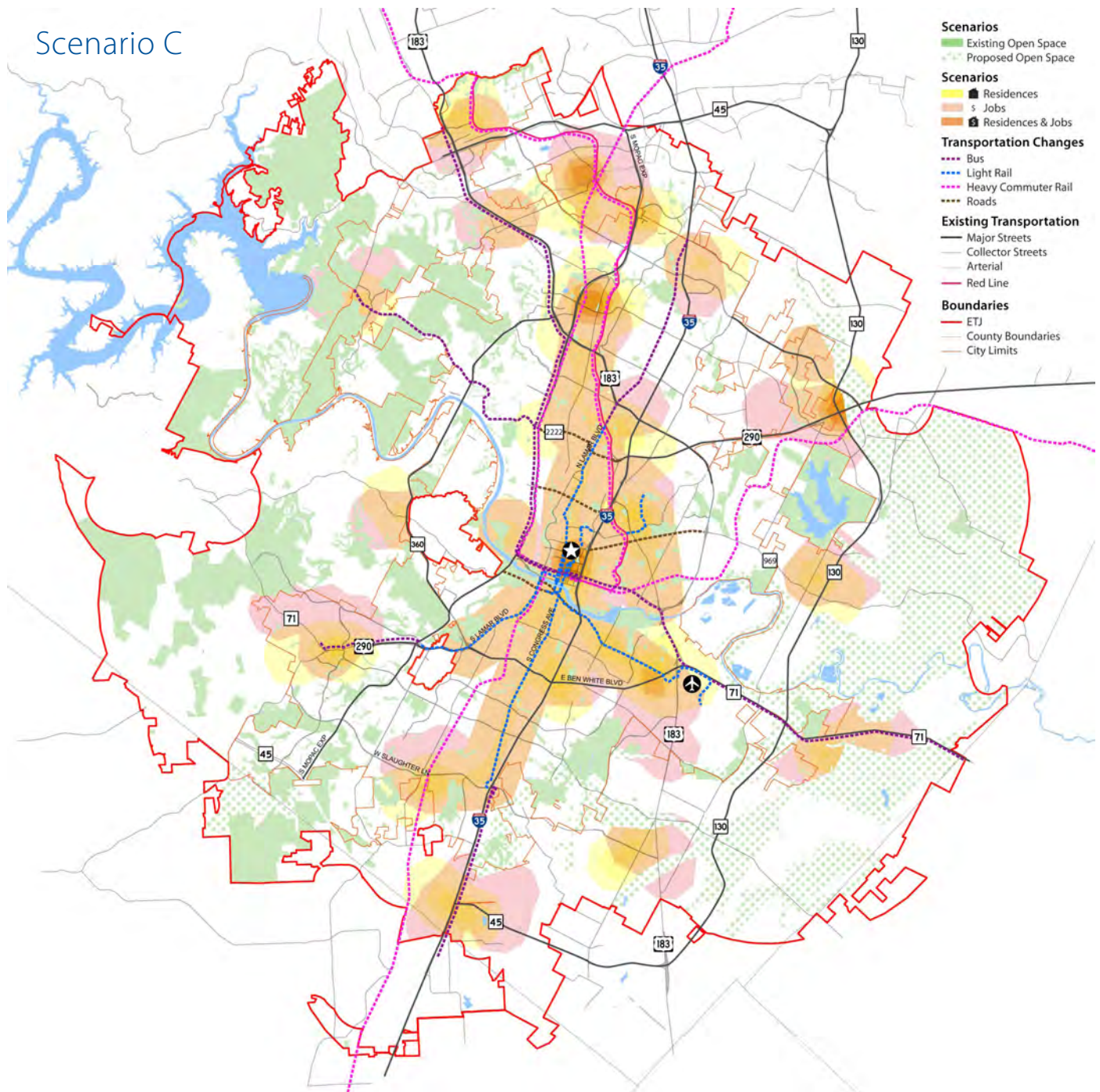
This scenario favors transit infrastructure to support the compact urban centers across the study area. By contrast, only a few arterials and no freeways are improved.

The City of Austin's rail lines are extended in four different areas: South Congress to IH 35, South Lamar to Mopac, North Lamar to the Capital Metro Red Line, and the east commuter rail line connecting Manor and Elgin to Austin. Express bus corridors in this scenario include North US 183/ Mopac connection to downtown Austin, North Lamar from the Red Line to IH 35, West FM 2222 from Mopac to RM 620, US 290 west from Mopac to the "Y", South Congress from William Cannon south, and SH 71 connecting past the airport to downtown via 7th Street. Scenario C includes 216 miles of bike/pedestrian paths.

Selected Summary Indicators

- » **Represents 99 sq miles of developed land.**
- » **62% of new development is mixed-use.**
- » **61% of new development occurs as redevelopment or infill.**
- » **54% of residents live within a ¼ mile of transit routes and stops.**
- » **Average vehicle miles traveled per day is 21.1 miles.**
- » **Average distance for all residents to the closest job is 0.15 miles.**
- » **22 square miles of development (22%) occurs over the Barton Springs aquifer (within aquifer recharge or contributing zones). Currently 83 sq miles of development is within aquifer recharge or contributing zones.**
- » **Estimated cost of new infrastructure (water and sewer service, schools, + transportation) is \$20.6 billion.**
- » **40% of population within ¼ mile of an existing park/schoolyard.**
- » **132 square miles of existing farmland are not developed by the scenario. Currently there are 151 sq miles of existing farmland.**

Scenario C



Revised August 8, 2010

4. Scenario D

Scenario D is the most compact of any of the scenarios and has the highest percentage of mixed-use development. Growth is focused in a north-south axis between Mopac Expressway to the west and SH 130 to the east. A significant amount of growth is accommodated via infill in existing residential neighborhoods. This scenario also employs mixed-use redevelopment along existing north-south road corridors to accommodate growth. Scenario D represents 88 square miles of development.

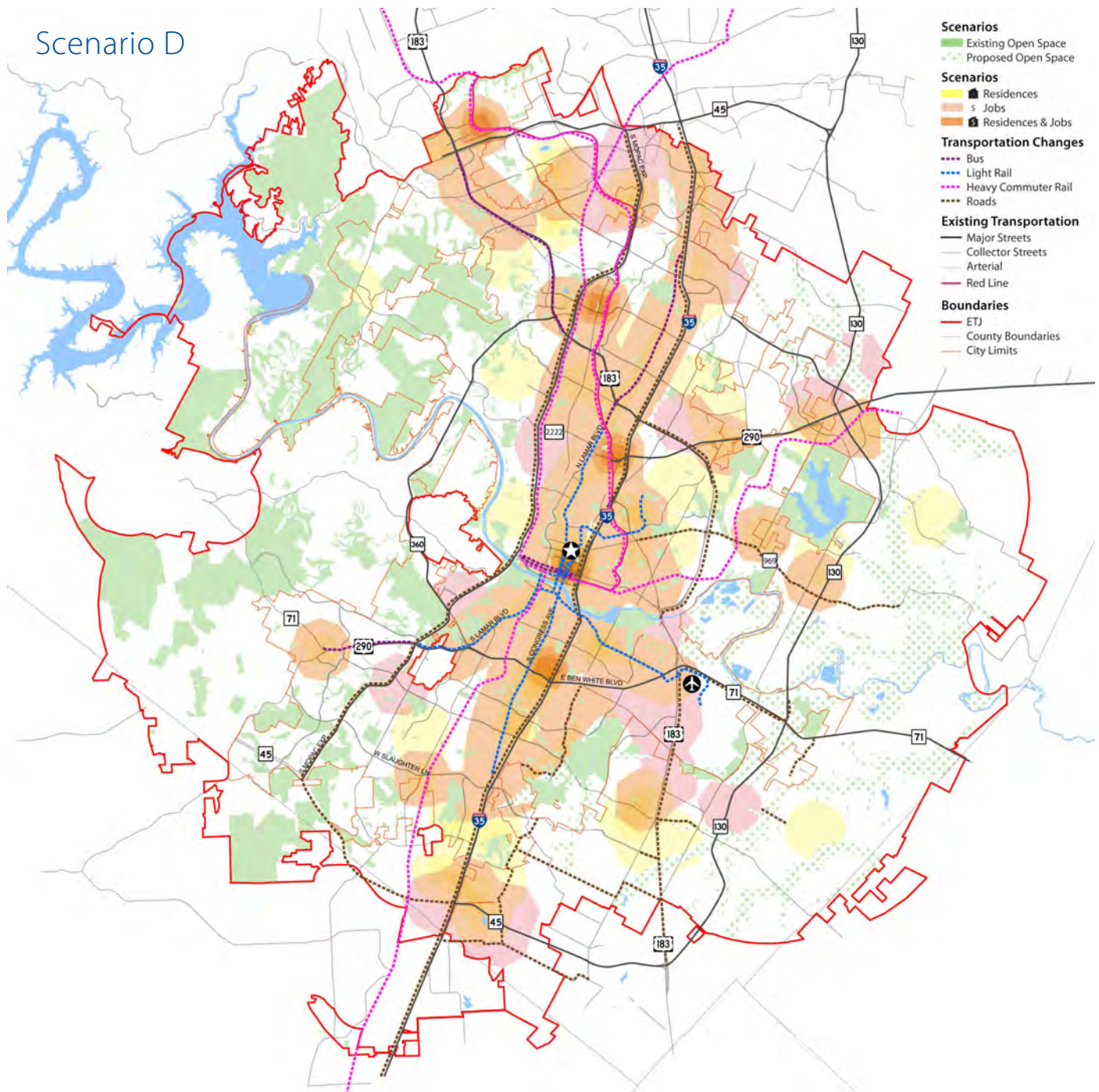
Both Mopac and IH 35 are improved to support a north-south growth pattern. Other freeway improvements include South US 183, SH 71 east of the airport, and SH 45 SW connecting Mopac to IH 35. Capacity improvements include new travel lanes, ROW acquisition, and utility relocation.

With regard to transit, many of the important north-south rail connections are similar to those seen in Scenario C. South Lamar to Mopac and North Lamar to the Red Line move people north and south on urban rail, while the North US 183/Mopac corridor, North Lamar, and US 290 express bus routes move people north and south on high capacity bus routes. The commuter rail line extending out toward Manor and Elgin is part of this scenario as well. The Scenario D includes 132 miles of bike/pedestrian paths.

Selected Summary Indicators

- » **Represents 88 sq miles of developed land.**
- » **71% of new development is mixed-use.**
- » **61% of new development occurs as redevelopment or infill.**
- » **55% of residents live within a ¼ mile of transit routes and stops.**
- » **Average vehicle miles traveled per day is 20.5 miles.**
- » **Average distance for all residents to the closest job is 0.15 miles.**
- » **16 square miles of development (18%) occurs over the Barton Springs aquifer (within aquifer recharge or contributing zones). Currently 83 sq miles of development is within aquifer recharge or contributing zones.**
- » **Estimated cost of new infrastructure (water and sewer service, schools, + transportation) is \$19.5 billion.**
- » **42% of population within ¼ mile of an existing park/schoolyard.**
- » **133 square miles of existing farmland are not developed by the scenario. Currently there are 151 sq miles of existing farmland.**

Scenario D



Revised August 8, 2010

5. Trend Scenario

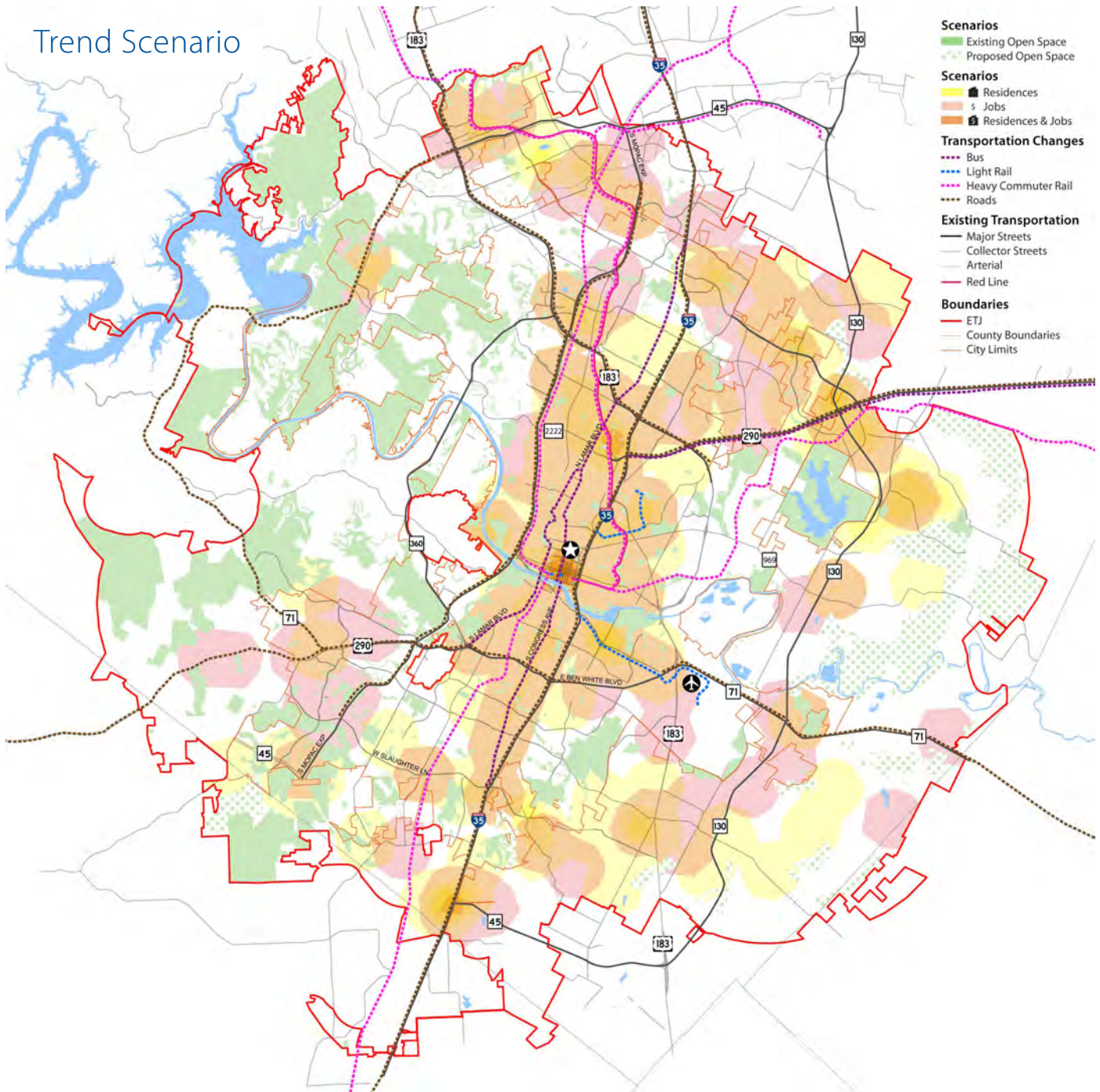
The Trend Scenario is based on the current trend of population and employment growth in Austin and assumes that recent trends will continue. At 45%, this scenario has the lowest percentage of mixed-use development. Still, some mixed-use development happens downtown and along some major urban core arterial roads. Intense single-use developments are focused at major highway intersections. A significant amount of residential infill occurs in single-family urban core neighborhoods. The Trend Scenario represents 161 square miles of development.

This scenario maintains all of the current funded and planned transportation projects from both CAMPO and the City of Austin, including the planned City of Austin Urban Rail, LoneStar Rail, and the other roadway projects planned and committed in both the TIP and the RTP. The Trend Scenario includes 332 miles of bike/pedestrian paths.

Selected Summary Indicators

- » **Represents 161 sq miles of developed land.**
- » **45% of new development is mixed-use.**
- » **54% of new development occurs as redevelopment or infill.**
- » **47% of residents live within a ¼ mile of transit routes and stops.**
- » **Average vehicle miles traveled per day is 21.6 miles.**
- » **Average distance for all residents to the closest job is 0.16 miles.**
- » **31 square miles of development (38%) occurs over the Barton Springs aquifer (within aquifer recharge or contributing zones). Currently 83 sq miles of development is within aquifer recharge or contributing zones.**
- » **Estimated cost of new infrastructure (water and sewer service, schools, + transportation) is \$23.7 billion.**
- » **39% of population within ¼ mile of an existing park/schoolyard.**
- » **117 square miles of existing farmland are not developed by the scenario. Currently there are 151 sq miles of existing farmland.**

Trend Scenario



Revised August 8, 2010

SCENARIO - INDICATOR RESULTS

City staff compiled the results from the public input from Community Forum Series #2 and translated the maps into GIS (Geographic Information Systems) format. As described in the previous section, the public input maps were consolidated into four different scenario maps. In the weeks following the scenario development workshop, city staff created digitized versions of each alternative scenario using GIS.

The future scenarios were measured using a set of indicators based on the Imagine Austin's Draft Vision Statement and Principles. The indicators allow a quantitative evaluation of the scenarios and a comparison of how consistent they are with the draft vision for the city's future prepared from public input. The city's comprehensive plan consultants (WRT, Criterion Planners, and Kimley-Horn) compiled the full indicator results, presented below in Tables 1-6.

Criterion ran the scenarios through their INDEX™ model¹ to measure a set of established performance indicators. Kimley-Horn applied the regional CAMPO Derivative Travel Demand Model and the firm's mode-split model to measure transportation and land use impacts and costs for each of the scenarios.² WRT used GIS to measure a number of indicators across scenarios.

Each indicator and its value is defined in the text immediately following the summary results below.

Table 1. Land Use and Urban Design Indicator Results.

		SCENARIOS				
	Source	A	B	C	D	Trend
Land Use and Urban Design						
Compact / Mixed Use						
Square miles of developed land, due to the scenario.	WRT	131	124	99	88	161
Percentage of new development ³ that is mixed use (mixes residences and jobs within walking distance).	WRT	52%	59%	62%	71%	45%
Average number of people and jobs per square mile of new development.	WRT	18,000	20,500	19,400	21,700	12,200
Redevelopment / Infill						
Percentage of new development accommodated by redevelopment or infill.	WRT	45%	49%	61%	61%	54%

¹ INDEX is an integrated suite of GIS planning tools used in a wide variety of planning processes across the country.

² All indicators measured using the CAMPO Derivative Model include the regional (five-county) control set.

³ In this context, "new development" refers to all new population and employment growth from the scenarios, it does not include existing development.

Table 2. Transportation Indicator Results.

		SCENARIOS				
	Source	A	B	C	D	Trend
Transportation						
Congestion/Travel Time³						
Vehicle Miles Traveled per day.	K-H	36.2 M	35.4 M	35.7 M	34.8 M	36.7 M
Vehicle Miles Traveled per capita per day.	K-H	21.4	20.9	21.1	20.5	21.6
Vehicle Minutes Traveled per capita per day.	K-H	46	44	44	41	46
Hours of delay per day.	K-H	537,000	450,000	467,000	388,000	543,000
Minutes of delay per capita per day.	K-H	19	16	17	14	19
Transit Service						
Percentage of all residents living within a quarter mile of transit routes and stops.	INDEX	48.6%	50.2%	53.6%	54.5%	46.5%
Percentage of all employees living within a quarter mile of transit routes and stops.	INDEX	61.7%	61.2%	63.3%	68.0%	61.2%
Trips by bus transit per day.	K-H	182,300	192,700	207,900	199,400	161,300
Trips by rail transit per day.	K-H	54,800	62,500	70,600	63,500	52,300
Bicycle / Pedestrian Routes						
Bicycle and pedestrian trips per day.	K-H	173,240	185,410	215,545	204,415	155,190

Table 3. Housing and Neighborhoods Indicator Results.

		SCENARIOS				
	Source	A	B	C	D	Trend
Housing and Neighborhoods						
Average number of people per square mile of new development.	WRT	13,200	14,500	14,000	15,200	11,000
Percentage of all residents living within a 1/4 mile of transit routes and stops.	INDEX	48.6%	50.2%	53.6%	54.5%	46.5%
Percentage of existing areas not redeveloped or slated for infill.	WRT	80%	83%	87%	87%	79%

Table 4. Economic Indicator Results.

		SCENARIOS				
	Source	A	B	C	D	Trend
Economy						
Access to Jobs						
Average distance in miles for all residents to the closest jobs.	WRT	0.20	0.17	0.15	0.15	0.16
Percentage of all employees within a quarter mile of transit routes and stops.	INDEX	61.7%	61.2%	63.3%	68.0%	61.2%
Economic Base						
Value of time lost per year to travel delays.	K-H	\$3.8 B	\$3.2 B	\$3.3 B	\$2.7 B	\$3.8 B

Table 5. Environmental Resources and Open Space.

		SCENARIOS				
	Source	A	B	C	D	Trend
Environmental Resources and Open Space						
Open Space						
Square miles of new development within sensitive areas.	WRT	29	27	18	17	35
Square miles of new development over Barton Springs aquifer (within aquifer recharge or contributing zones).	WRT	34	21	22	16	31
Air Quality / Greenhouse Gases						
Air pollution (Tons of smog-forming air pollution emitted each year from cars, trucks, and other vehicles. <i>Includes nitrogen oxides and volatile organic compounds</i>).	K-H	48,064	46,992	47,423	46,220	48,774
Tons of CO2 produced annually by transportation.	K-H	5.29 M	5.17 M	5.21 M	5.08 M	5.36 M
Water						
Water consumption from new development (millions of gallons per day).	COA	102	98	91	92	101
Local Agriculture						
Square miles of existing farmland not developed.	WRT	104.1	110.7	132.3	133.3	117.2
Square miles of designated prime farmland soils not developed.	WRT	106.8	106.8	121.6	118.1	105.8

Table 6. City Facilities and Services

		SCENARIOS				
	Source	A	B	C	D	Trend
City Facilities and Services						
Fiscal Responsibility						
Estimated order of magnitude cost of providing water and sewer infrastructure to new development.	WRT	\$8.0 B	\$7.9 B	\$6.3 B	\$6.2 B	\$9.0 B
Estimated order of magnitude cost of providing schools to new development.	WRT	\$7.5 B	\$7.3 B	\$7.3 B	\$7.2 B	\$7.9 B
Estimated cost of constructing new transportation infrastructure (roads and transit).	K-H	\$7.1 B	\$7.1 B	\$7.0 B	\$6.1 B	\$6.8 B
Additional roadway lanes miles constructed.	K-H	705	654	565	667	768
Additional miles of light rail constructed.	K-H	33	33	66	66	33
Additional miles of commuter rail constructed.	K-H	40	53	53	53	40
Parks						
Percentage of all residents within a quarter mile of a park or school yard.	INDEX	40.8	38.7	39.9	41.6	38.9
Public Safety						
Average distance in miles for new residents to the closest existing police station.	WRT	3.32	3.12	2.83	2.79	3.11
Average distance in miles for new residents to the closest existing fire station.	WRT	1.51	1.40	1.27	1.27	1.46

Land Use and Urban Design

Compact / Mixed Use Indicator(s)

- Percentage of new development that mixes residences and jobs within walking distance: *Ratio of new mixed-use development to all new development.* (WRT)
- Average number of people and jobs per square mile of new development: *Average residential and employment densities for new development.* (WRT)

What the Indicator(s) Mean

The higher the values, the more mixed-use development and higher overall densities in each scenario.

Redevelopment / Infill Indicator(s)

- Percentage of new development that happens over or alongside existing development: *Ratio of square miles of redeveloped land to square miles of undeveloped land converted to urban.* (WRT)

What the Indicator(s) Mean

The higher the percentage, the more redevelopment and infill in each scenario.

Transportation

Congestion / Travel Time Indicators

- Vehicle Miles Traveled per day. (Kimley-Horn)
- Vehicle Miles Traveled per capita per day. (Kimley-Horn)
- Vehicle Hours Traveled per day. (Kimley-Horn)
- Vehicle Minutes Traveled per capita per day. (Kimley-Horn)
- Hours of delay per day. (Kimley-Horn)
- Minutes of delay per capita per day. (Kimley-Horn)

What the Indicator(s) Mean

The higher the values, the more the road network is being used, the more time people are spending in their cars, and the more delay they are experiencing, indicating increased congestion and travel times.

Transit Service Indicator(s)

- Percentage of all residents living within a quarter miles of transit routes and stops: Transit Adjacency to Housing (INDEX)
- Percentage of all employees within a quarter mile of transit routes and stops: Percent of employees within a quarter mile linear distance of transit routes (exclusive of heavy rail) and transit stops. (INDEX)
- Trips by bus transit per day: Transit Ridership. (Kimley-Horn)
- Trips by rail transit per day: Transit Ridership. (Kimley-Horn)

What the Indicator(s) Mean

The higher the values, the more people have access to transit at home and work and the more people are using transit service.

Bicycle / Pedestrian Routes Indicator(s)

- Bicycle and pedestrian trips per day: Bike/pedestrian usage. (Kimley-Horn)

What the Indicator(s) Mean

The higher the values, the more people have access to bicycle and pedestrian routes and the more people are using those routes.

Housing and Neighborhoods

- Average number of people per square mile: Average residential density. (WRT)
- Percentage of all residents living within a quarter mile of transit routes and stops: Transit Adjacency to Housing: Percent of residents dwelling within a quarter mile linear distance of transit routes (exclusive of heavy rail) and transit stops. (INDEX)

What the Indicator(s) Mean

The higher the residential density value, the more variety in housing options available and the more opportunities for affordable housing. The higher the percentage of residents within a quarter mile of transit lines and stops, the potential for transportation cost savings increases.

- Percentage of existing residential areas not redevelopment or slated for infill. Ratio of residential areas not redeveloped or slated for infill compared all new development. (WRT)

What the Indicator(s) Mean

The higher the value, the less existing residential areas change and the more neighborhoods are preserved.

Economy

Access to Jobs Indicator(s)

- Average distance in miles for all residents to the closest job. (WRT)
- Percentage of all employees within a quarter mile of transit routes and stops: Percent of employees within a quarter-mile linear distance of transit routes (exclusive of heavy rail) and transit stops. (INDEX)

What the Indicator(s) Mean

The lower the value in miles and the higher the value in percentage of employees, the more potential job opportunities and the more accessible these jobs are to residents.

Economic Base Indicator(s)

- Value of time lost per year to travel delays. *Delay means additional travel time due to congestion.* (Kimley-Horn)

What the Indicator(s) Mean

The higher the value, the greater the cost to the region's economic prosperity and quality of life for employees.

Environmental Resources and Open Space

Open Space Indicator(s)

- Square miles of new development over sensitive environmental areas (e.g., floodplains, steep slopes, stream buffers, and preserve areas). (WRT)
- Square miles of new development over the Barton Springs aquifer recharge or contributing zones. (WRT)

What the Indicator(s) Mean

The lower the values, the less development over sensitive environmental areas, and the more the environment and critical natural resources are preserved.

Air Quality / Greenhouse Gases Indicator(s)

- Tons of NoX produced annually by transportation. Kimley-Horn
- Tons of CO₂ produced annually by transportation. Kimley-Horn
- Tons of VOC produced annually by transportation. Kimley-Horn

What the Indicator(s) Mean

The higher the value, the worse the air quality. The lower the other values, the less transportation congestion.

Water Indicator(s)

- Estimated water consumption from new development in millions of gallons per day (COA): *Estimated additional average annual demand (average conditions - weather, etc.)*.

What the Indicator(s) Mean

The lower the value, the less water consumed

Local Agriculture Indicator(s)

- Square miles of existing farmland not developed: *total square miles over existing agricultural land as categorized by existing land use in GIS*. (WRT).
- Square miles of existing USDA designated prime farmland soils not developed: *total square miles over prime farmland as categorized by the USDA, regardless of whether the land is currently being used for agriculture*. (WRT).

What the Indicator(s) Mean

The lower the values, the more agricultural land or potential agricultural land available for food production. Fewer square miles of agricultural land reduces the possibility of locally-grown food being available.

City Facilities and Services

Fiscal Responsibility Indicator(s)

- Estimated order of magnitude cost of providing water and sewer infrastructure and schools to new development. Cost of infrastructure estimated using national Urban Land Institute (ULI) averages costs associated with public water and sewer. (WRT)
- Estimated order of magnitude cost of constructing new transportation infrastructure. Order of magnitude transportation improvement costs. (Kimley-Horn using the CAMPO 2035 Plan Project List from the 2035 Regional Transportation Plan (RTP) and the Central Austin Transit Study.

What the Indicator(s) Mean

The lower the values, the less money the city must collect from residents and spend on building new infrastructure to serve new residents and the more money the city can spend to improve existing infrastructure and the quality of life of its residents.

Parks Indicator(s)

- Percentage of all residents within a quarter-mile of a park or school yard: *Park/Schoolyard Adjacency to Housing: Percent of residents within a quarter-mile linear distance of parks or school yards.* (INDEX)

What the Indicator(s) Mean

The higher the values, the more residents with access to existing park and schoolyard facilities.

Public Safety Indicator(s)

- Average distance in miles for new residents to the closest existing police station. (WRT)
- Average distance in miles for new residents to the closest existing fire station. (WRT)

What the Indicator(s) Mean

The lower the values, the more residents with access to existing emergency response and public safety facilities and services, allowing funding to be spent on increasing service at and maintaining these facilities rather than on building, operating, and maintaining new facilities in addition to existing ones.