IV. Defining Future Mobility Conditions

4.1 Travel Demand Forecasting

The City of Houston and the Houston-Galveston Area Council (H-GAC), through an inter-local agreement, conducted the travel demand forecasting within the Study Area. The Travel Demand Model (the model) is a useful tool for comparing alternative transportation scenarios. The model assists in understanding the manner in which future population and employment will cause traffic to grow. The intent is to better understand the dynamics of a complex network of streets and to test what-if scenarios of different transportation solutions.

The City, H-GAC's forecasters, and the Consultant Team work together to update the 2035 demographic forecasts. This change was based on existing building permits, development trends, and traffic studies.

Forecast Results - The Scenarios

The study team created four initial scenarios for the Heights and Northside sub-areas. These scenarios were designed to test big ideas from local stakeholders, professional staff, and the consultant team. The different scenarios include:

- Scenario 1 (Base Build-Out)
- Scenario 2 (Couplets)
- Scenario 3 (Capacity Projects)
- Scenario 4 (High Frequency Transit)
- Scenario 5 (Recommendations)

The scenarios were analyzed individually to allow for a comparison between different concepts. Ultimately, a combined scenario (Scenario 5) represents final recommendations the Project Team feels are realistic for implementation.

Scenario 1 (Base Build-Out)

The Base Model scenario runs the model as if all Major Thoroughfares and Major Collectors were built-out as identified in the 2013 MTFP. The effects of such recommendations on traffic volumes and congestion levels were evaluated in this scenario. The map of this scenario is found in Figure 4.1 on page 37.

Scenario 2 (Couplets)

A group of Heights' area stakeholders showed a desire to test diverting a few major corridors into couplets or one-way streets and see how this would affect traffic flow. There were many comments directed at 19th and 20th Street as well as Heights Boulevard and Yale Street. Traffic issues and a desire to make the corridors friendlier for bicyclist and pedestrians were frequently mentioned. The idea of making 19th/20th and Heights/Yale one-way couplets was created to improve traffic flow, but also decrease lanes in order to provide on-street bicycle facilities. The map of this scenario is shown in Figure 4.2 on page 37.

Scenario 3 (Capacity Projects)

Scenario 3 combines road expansion (as designated by the MTFP) with street reductions projects as well. The intention was to create a network that safely and reasonably supported a variety of mobility uses. This model is a more financially feasible option than the Base Model Scenario. The map of this scenario is found in Figure 4.3 on page 37.

Scenario 4 (High Frequency Transit)

Scenario 4: This high frequency transit scenario developed routes that were determined from a variety of factors including public comment, population growth, job growth, activity centers, and connectivity to other destinations (such as downtown or the Galleria). The increase in service was modeled by increasing headways to twice as often during the peak hours. Non-peak hour headways were also increased slightly. Ultimately, however, METRO is in charge of all bus routes, frequency and stop locations. The map of this scenario is found in Figure 4.4 on page 37.

Scenario 5 (Recommendations)

These four scenarios were analyzed separately and compared to the 2035 Base Model as provided by H-GAC (with the new 2035 demographics previously discussed). Scenario results were then taken to the stakeholders for feedback. Their input and the project team's analysis were combined to create Scenario 5. This scenario represents the best performing projects within the Study Area. The map of this scenario is found in Figure 4.5 on page 38.

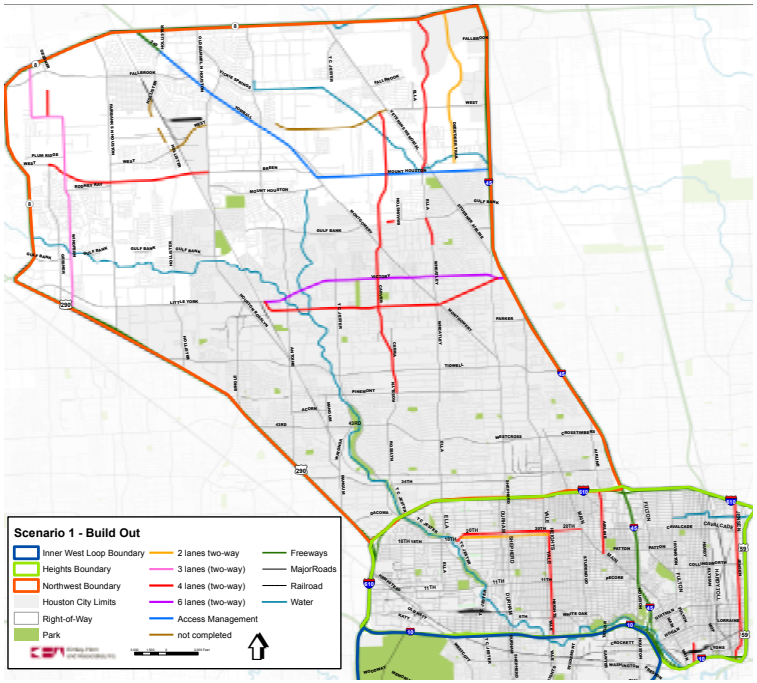

FIGURE 4.1 SCENARIO 1: BASE BUILD-OUT

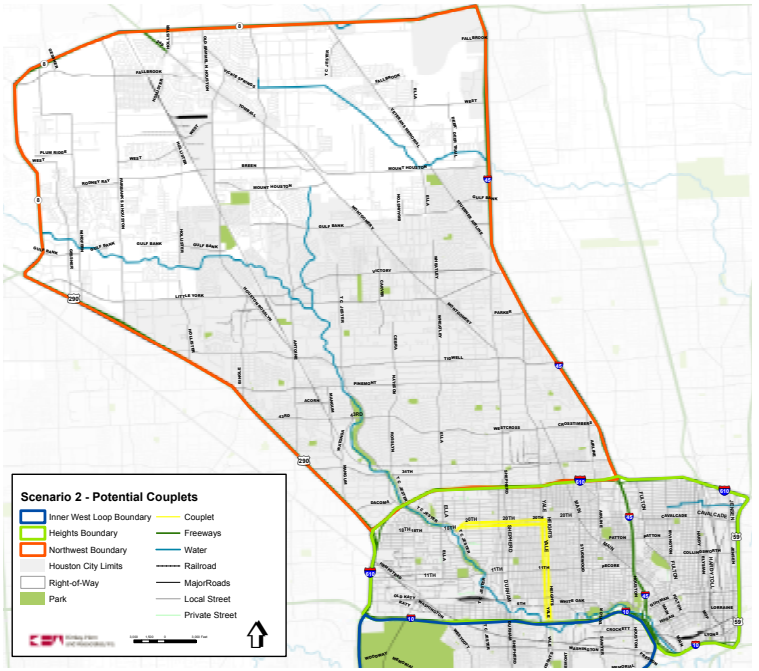

FIGURE 4.2 SCENARIO 2: COUPLETS

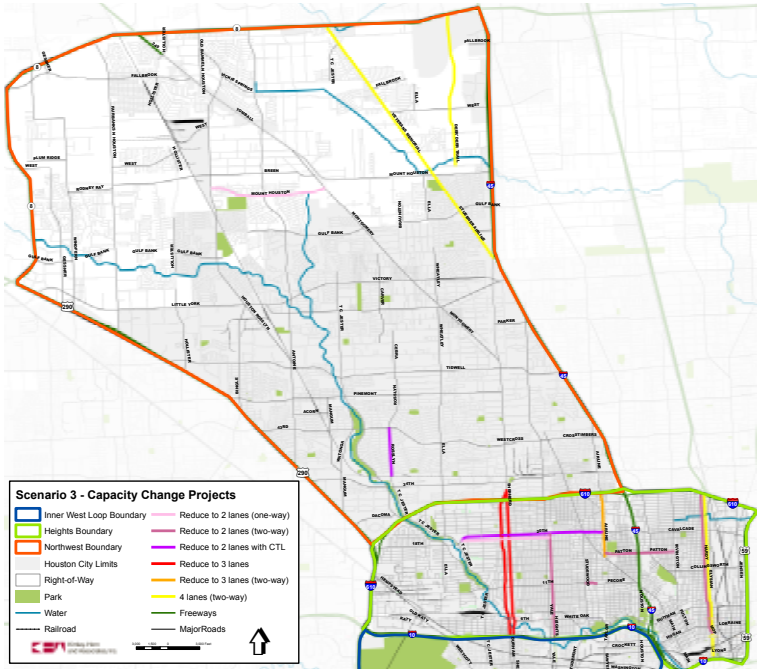

FIGURE 4.3 SCENARIO 3: CAPACITY PROJECTS

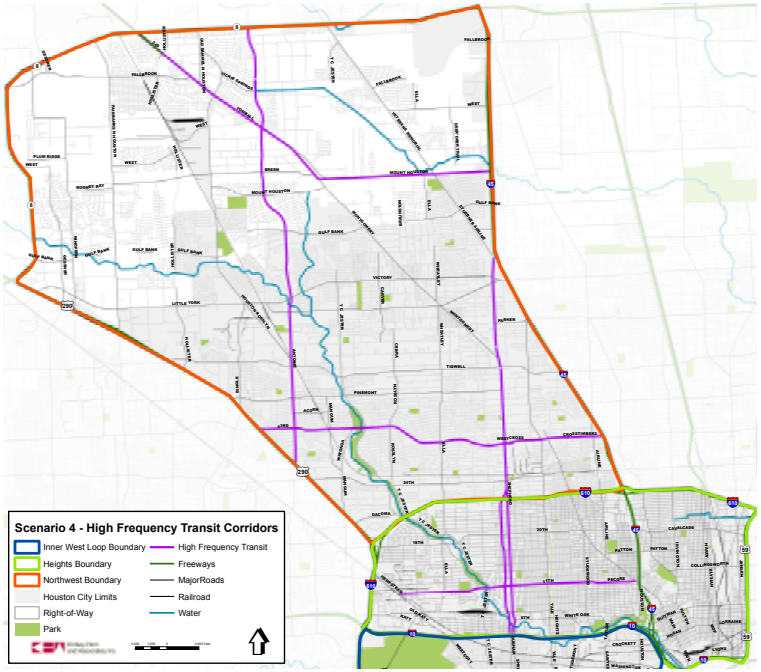

FIGURE 4.4 SCENARIO 4: HIGH FREQUENCY TRANSIT

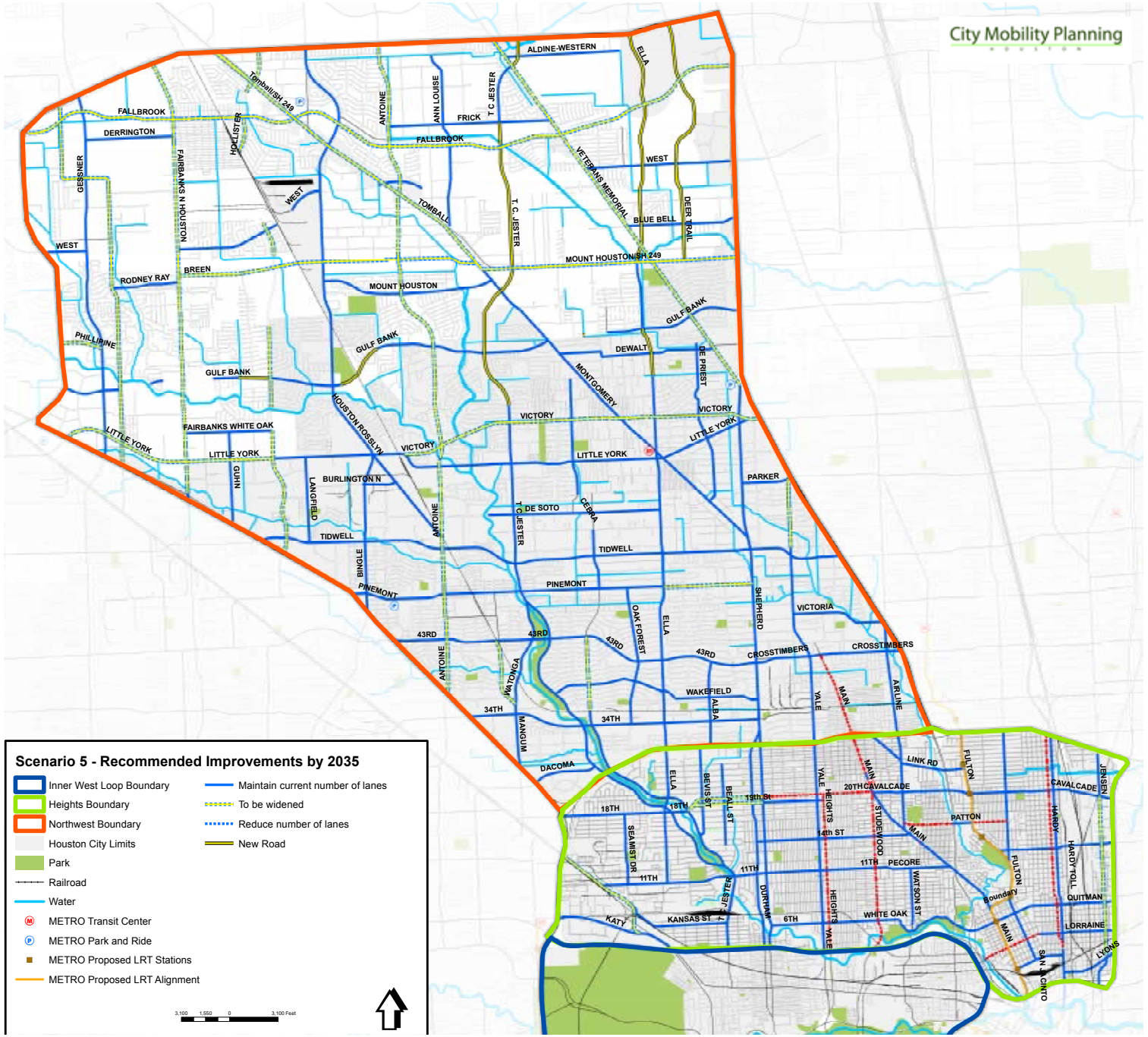

FIGURE 4.5: SCENARIO 5 - RECOMMENDATIONS

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