

City Plan Commission Work Session

May 6, 2014



Image Source – Richardson Public Library

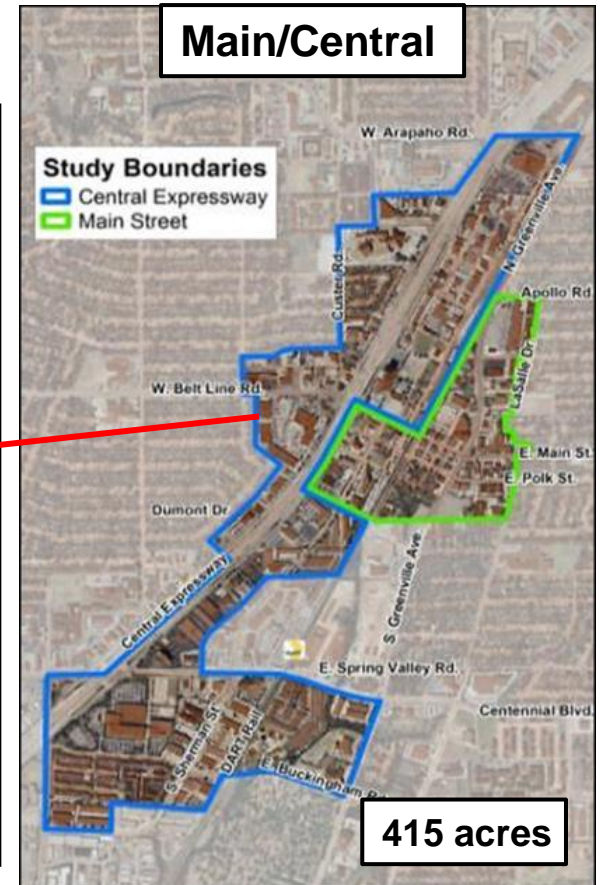
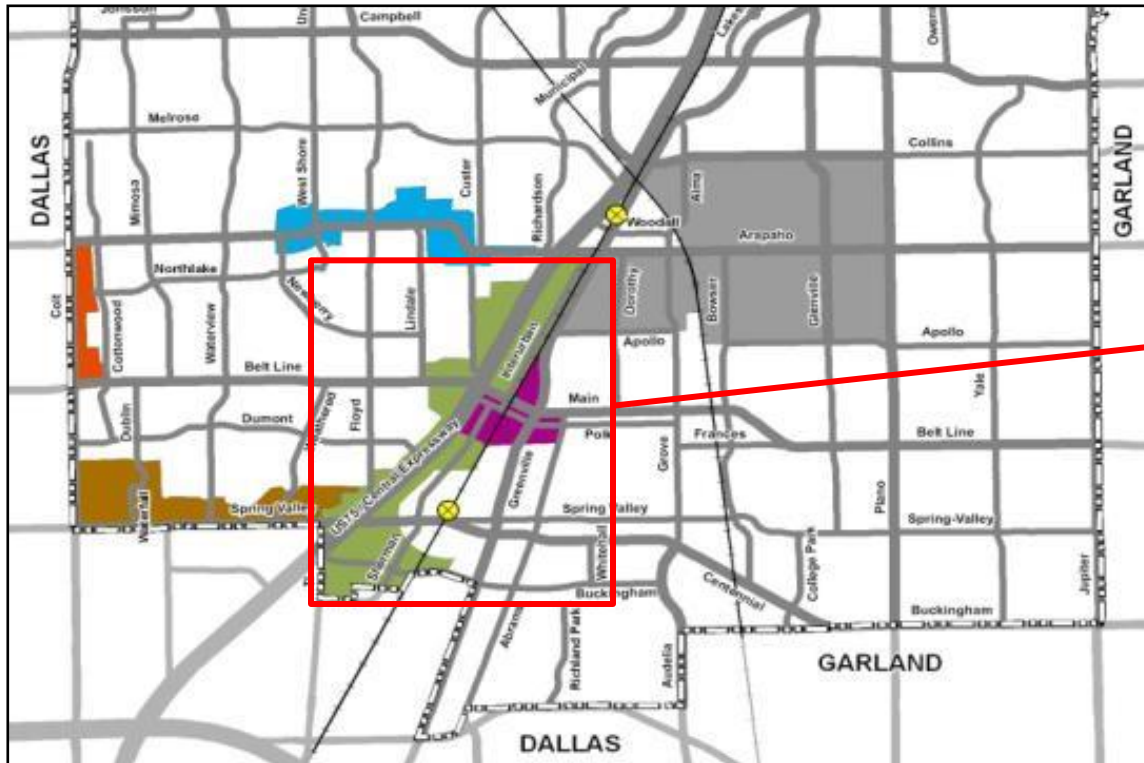
Agenda

- Project Overview
- Transportation Analysis and Conclusions
- Viewshed Analysis and Conclusions
- Next Steps

Project Overview

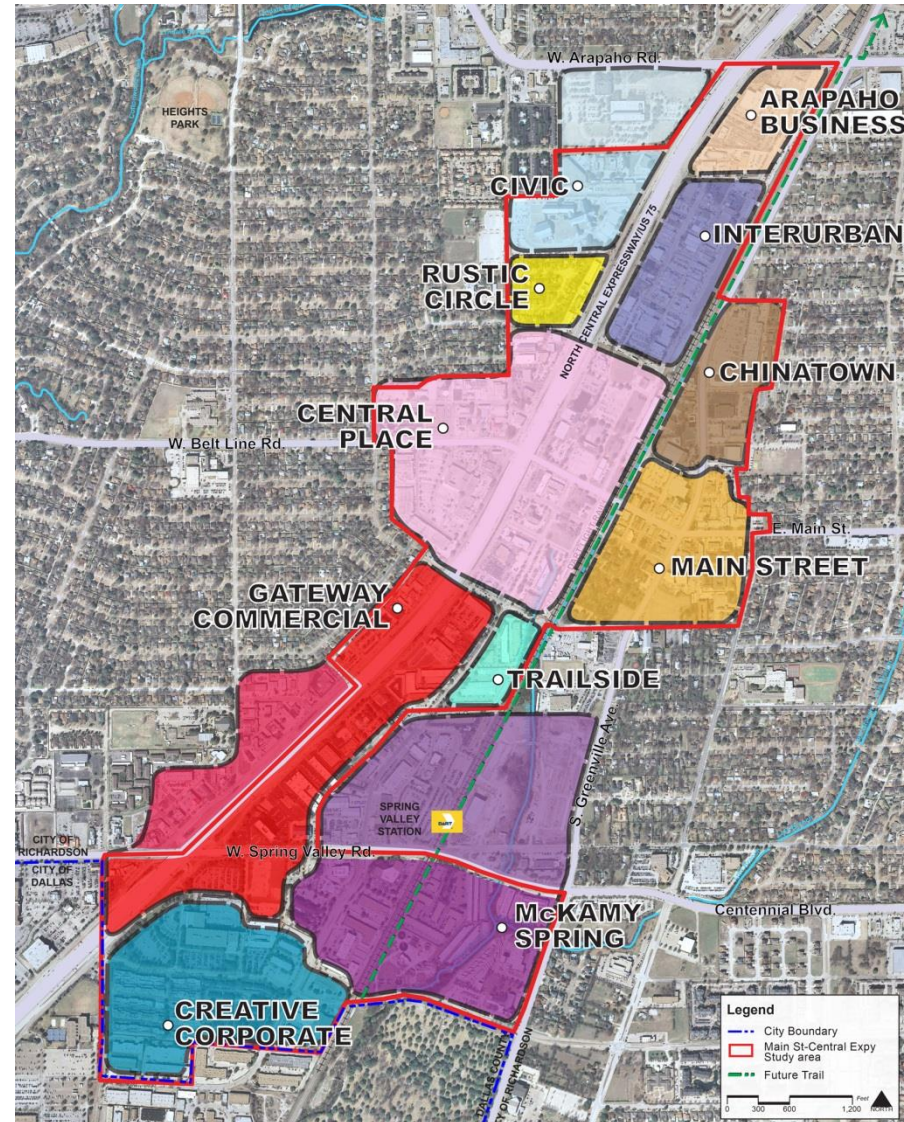
2009 Comprehensive Plan – Six Enhancement Areas

- West Spring Valley (Implementation)
- East Arapaho/Collins (Phase 1)
- West Arapaho
- Coit
- Old Town/Main Street (Phase 1)
- Central (Phase 1)



Phase I – The Vision

- **Old Town/Main Street and Central Expressway** combined into single study area
- 415 acres – 11 sub-districts
- Vision aligns:
 - Existing physical conditions
 - Existing opportunities and constraints
 - Anticipated future real estate / market factors
 - Community desires



Remaining Questions from Phase 1

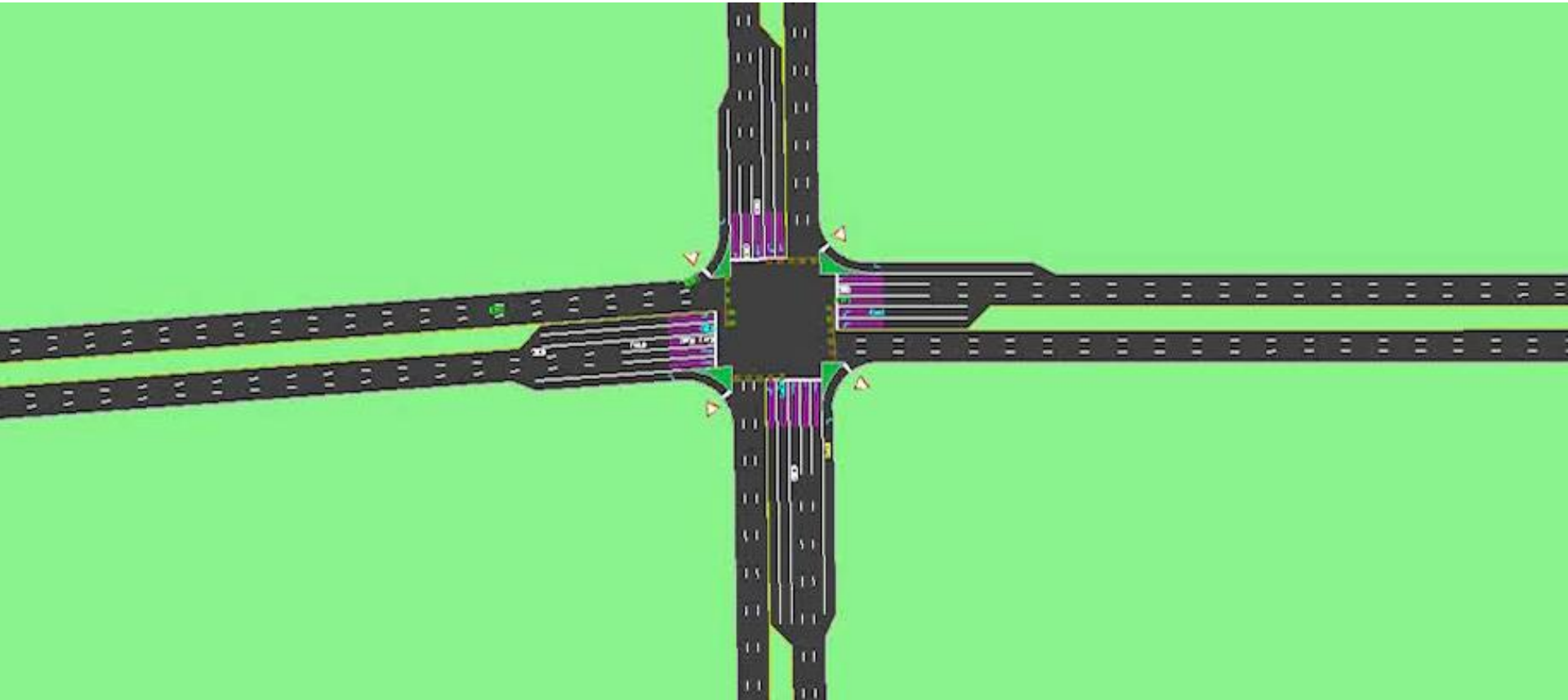
- What is the appropriate future configuration for Main Street east of Central Expressway?
- What are the appropriate maximum heights for future buildings in the Central Place and Main Street Districts?

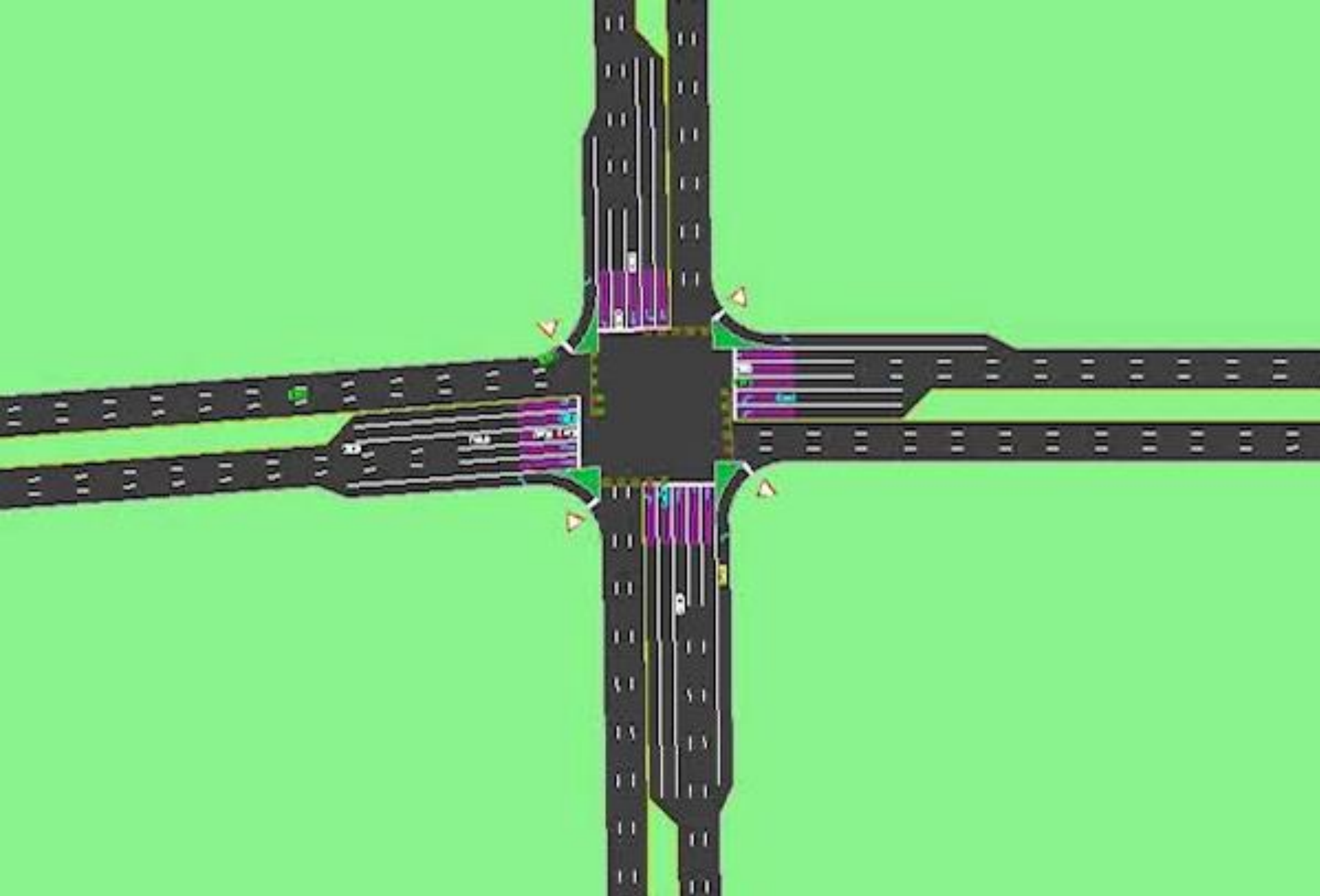


Transportation Analysis and Conclusions

Level of Service – Overview

Level-of-Service A and B describes free-flow operations. Traffic flows at or above the posted speed limit and all motorists have complete mobility between lanes. An example of LOS A occurs late at night in urban areas, frequently in rural areas (*Example: Most Richardson Streets after 10 PM and before 5 AM*).

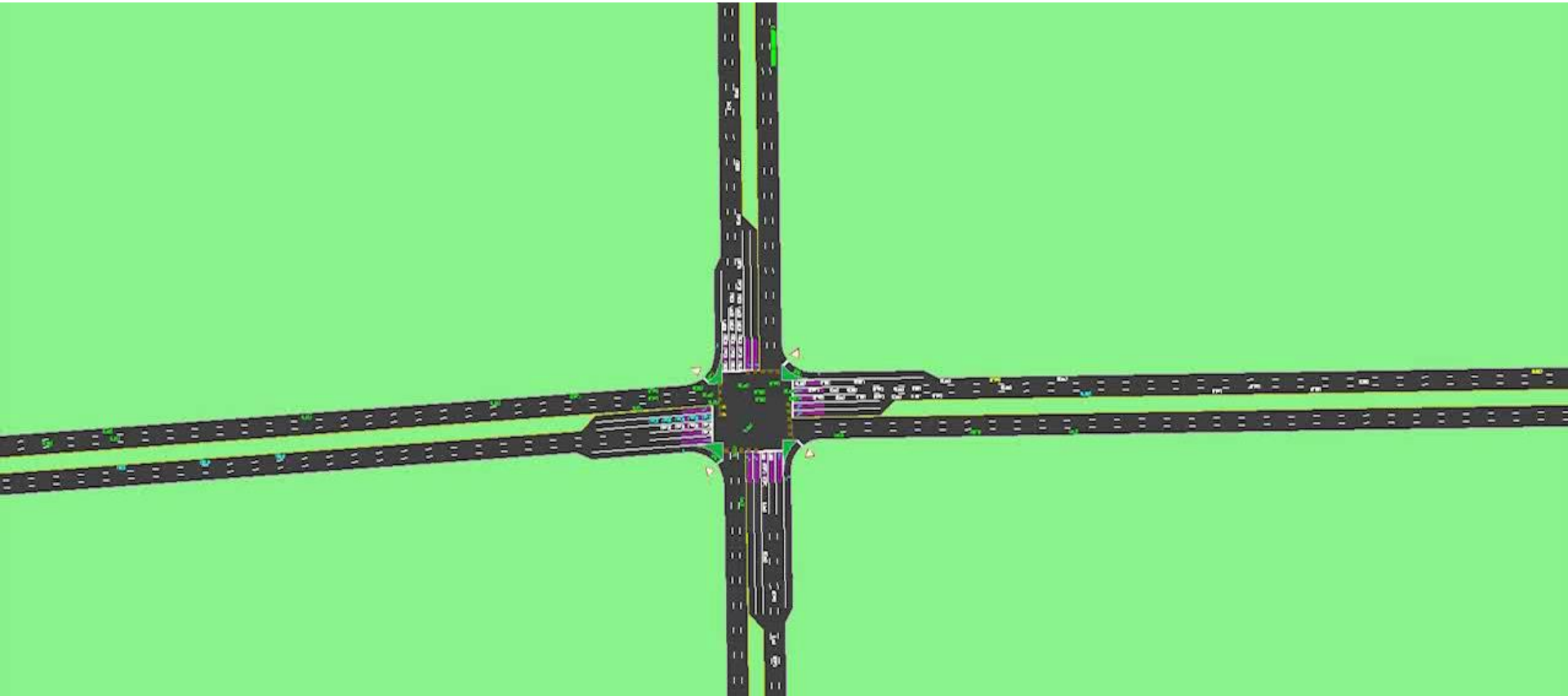


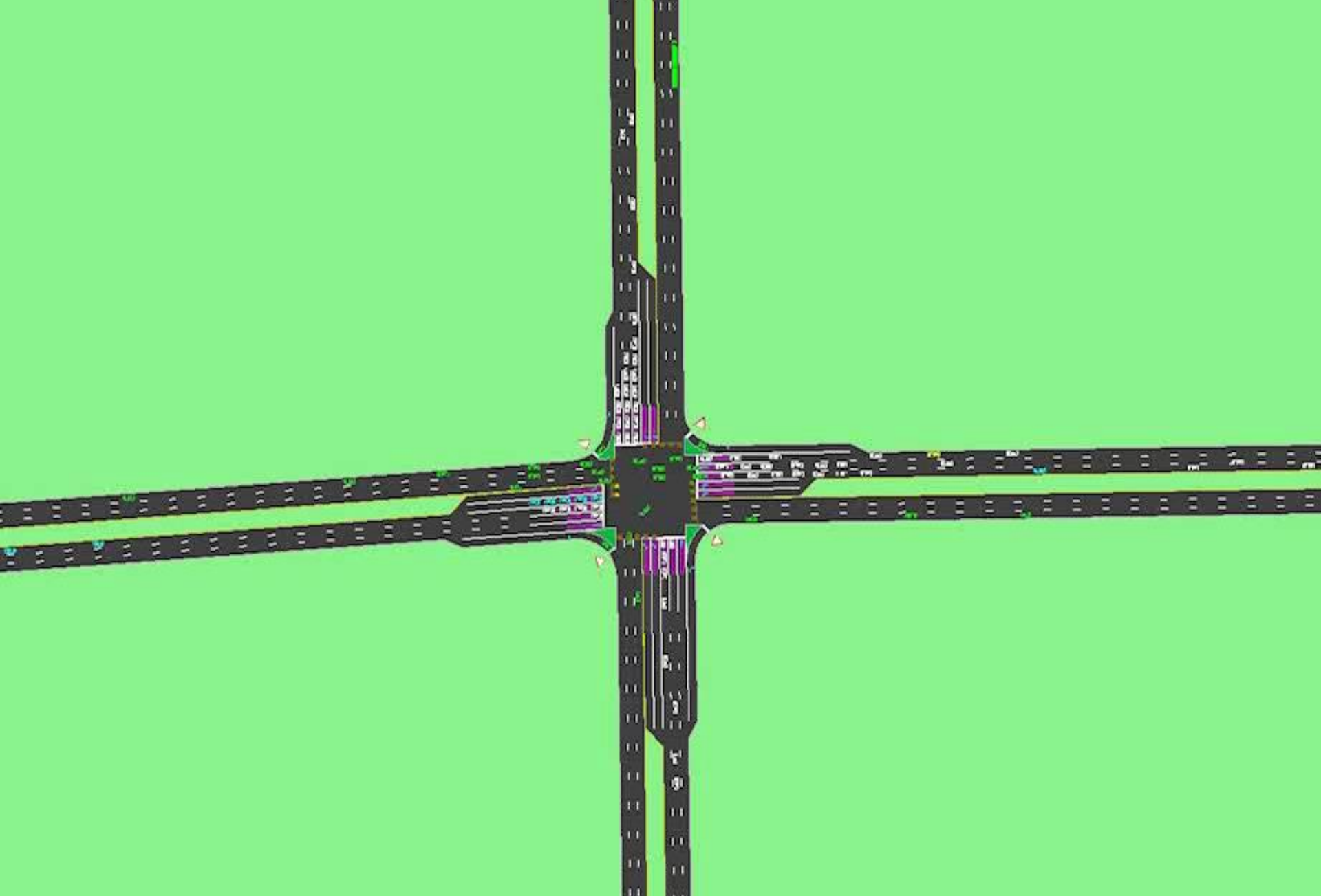


MAIN STREET / CENTRAL EXPRESSWAY STUDY

Level of Service – Overview

Level-of-Service C and D describes decreasing free-flow levels. Speeds slightly decrease as the traffic volumes slightly increase. LOS D is a common goal for urban streets during peak hours, as attaining LOS C may require a prohibitive cost (*Examples: Beltline Road at Coit Road and Renner Road at Jupiter Road*).

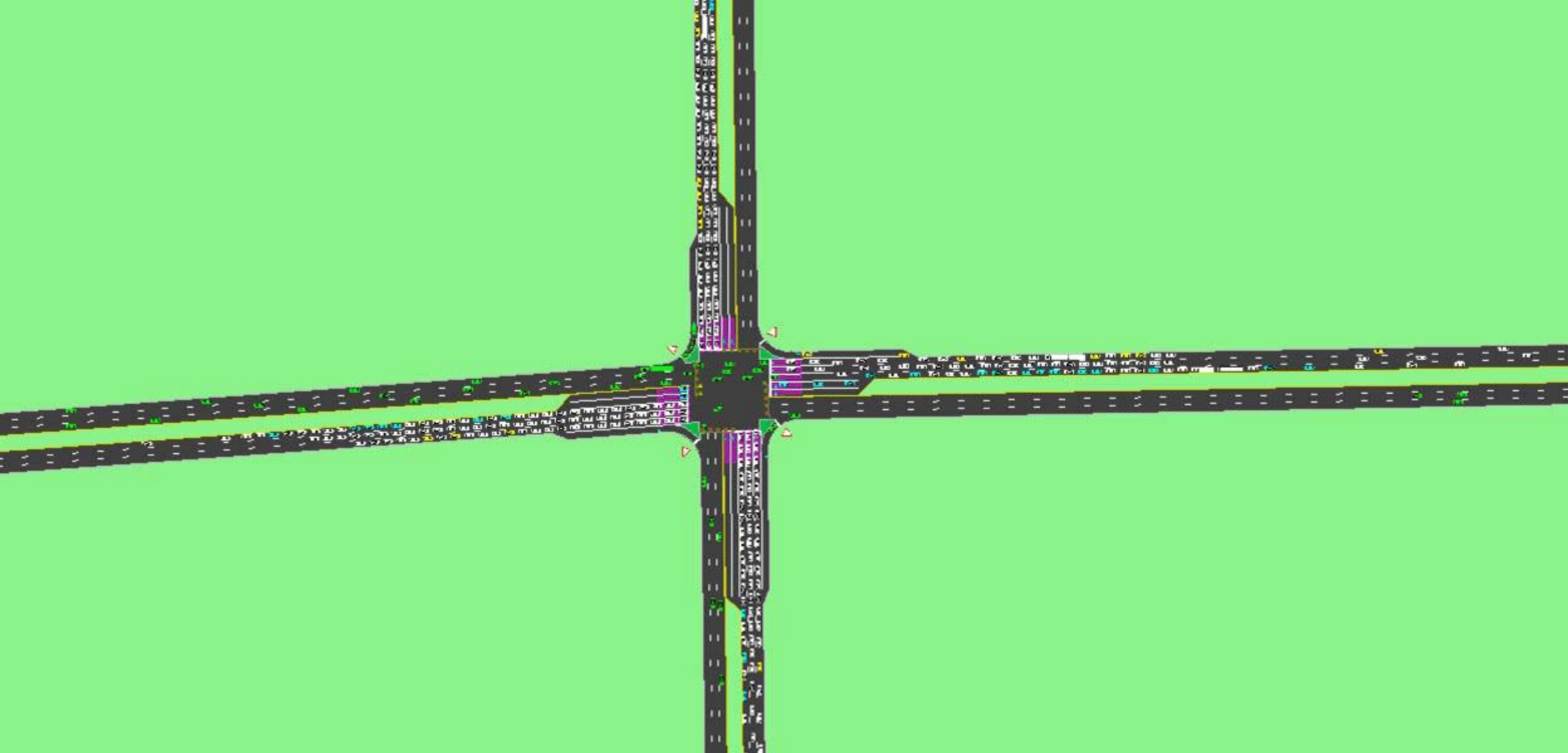


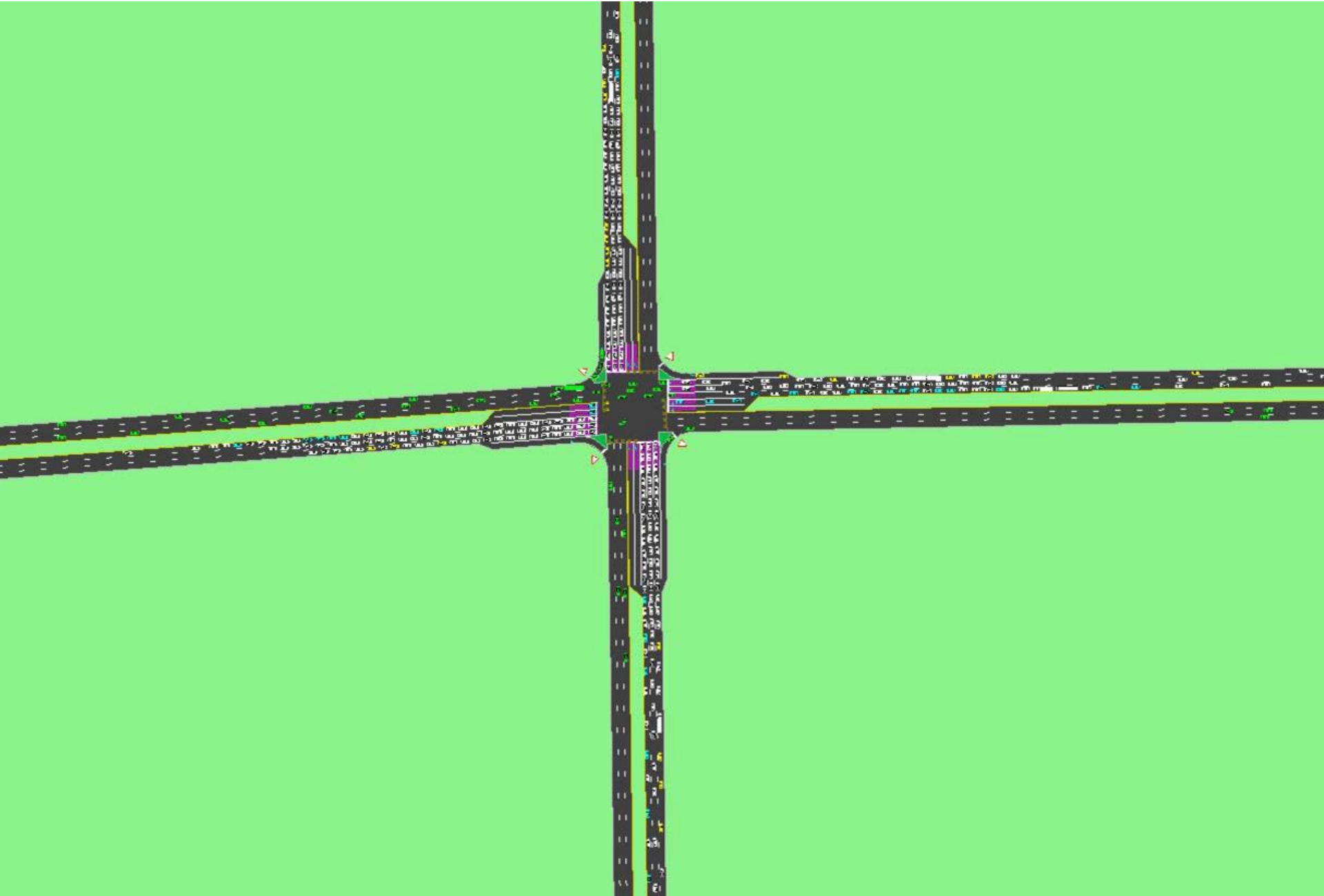


MAIN STREET / CENTRAL EXPRESSWAY STUDY

Level of Service – Overview

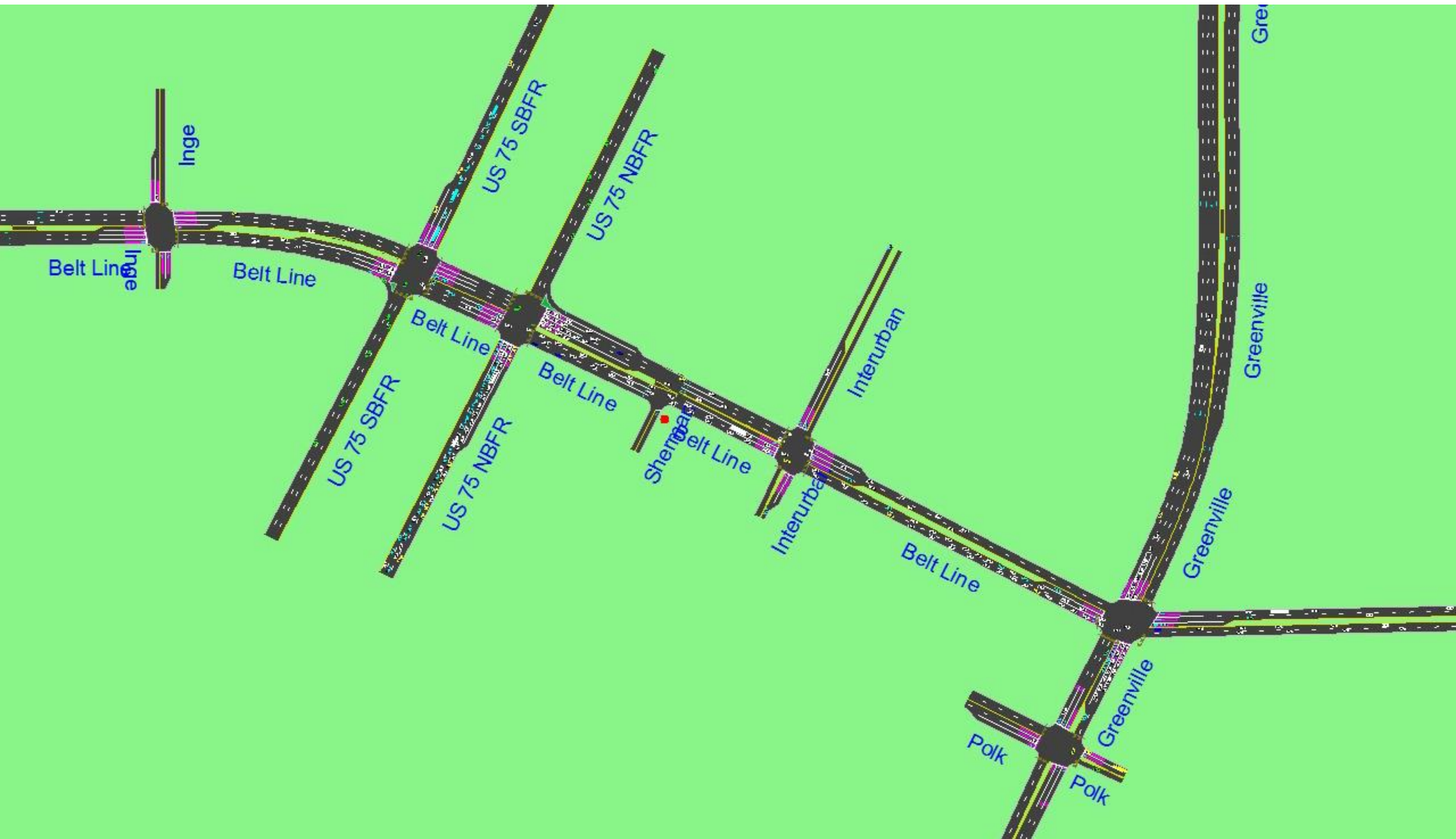
Level-of-Service F describes a highly constrained vehicular flow. Flow is forced; every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required (*Examples: Coit Road and Campbell Road during peak hours*).





MAIN STREET / CENTRAL EXPRESSWAY STUDY

Current Main Street Condition (2014 Geometry)

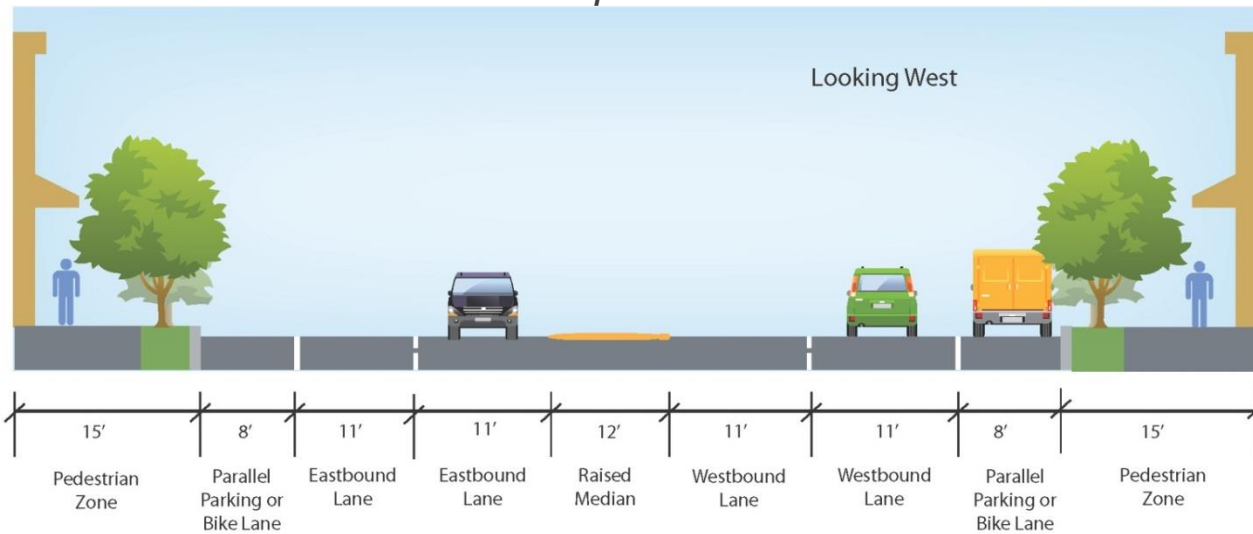


Alternative Option Evaluated – Vision Study

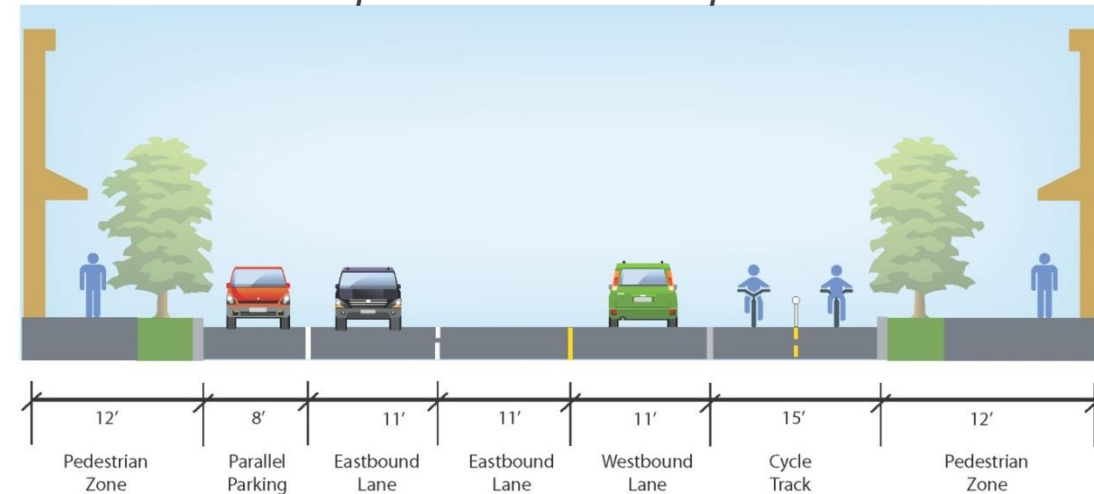
- One-way couplet (two one-way streets working as a pair):
 - Limits accessibility to Main Street businesses
 - Re-routes a substantial number of automobiles from Belt Line to Polk Street, then back to Belt Line
 - Consumes a large amount of land to accommodate transitions
 - High volume of commuter traffic driving through the Downtown area

Preliminary Study Recommendation

Main Street - Boulevard Concept



Polk Street – Complete Street Concept



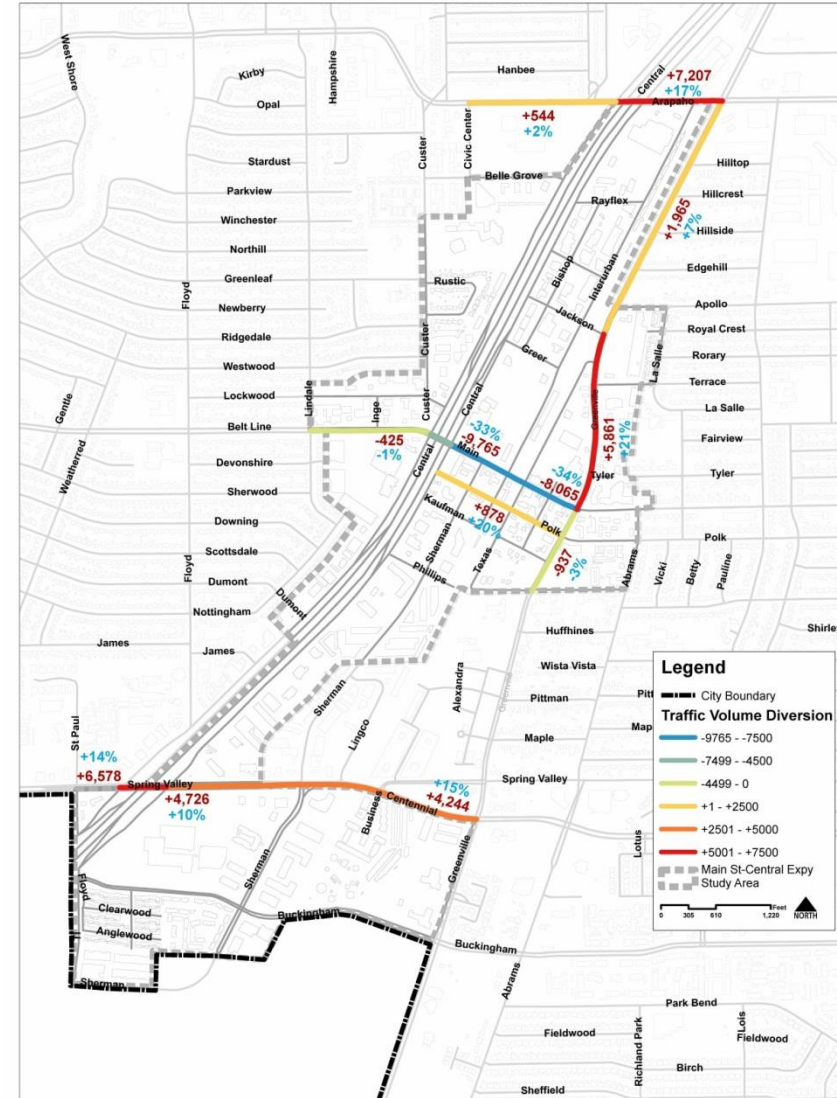
Specific Questions - December 2012 City Council Briefing

- Should Main Street be designed to accommodate existing levels of traffic, or should the corridor be narrowed to discourage through traffic and better accommodate pedestrians and bicyclists?
- Should the design of Main Street include a median?



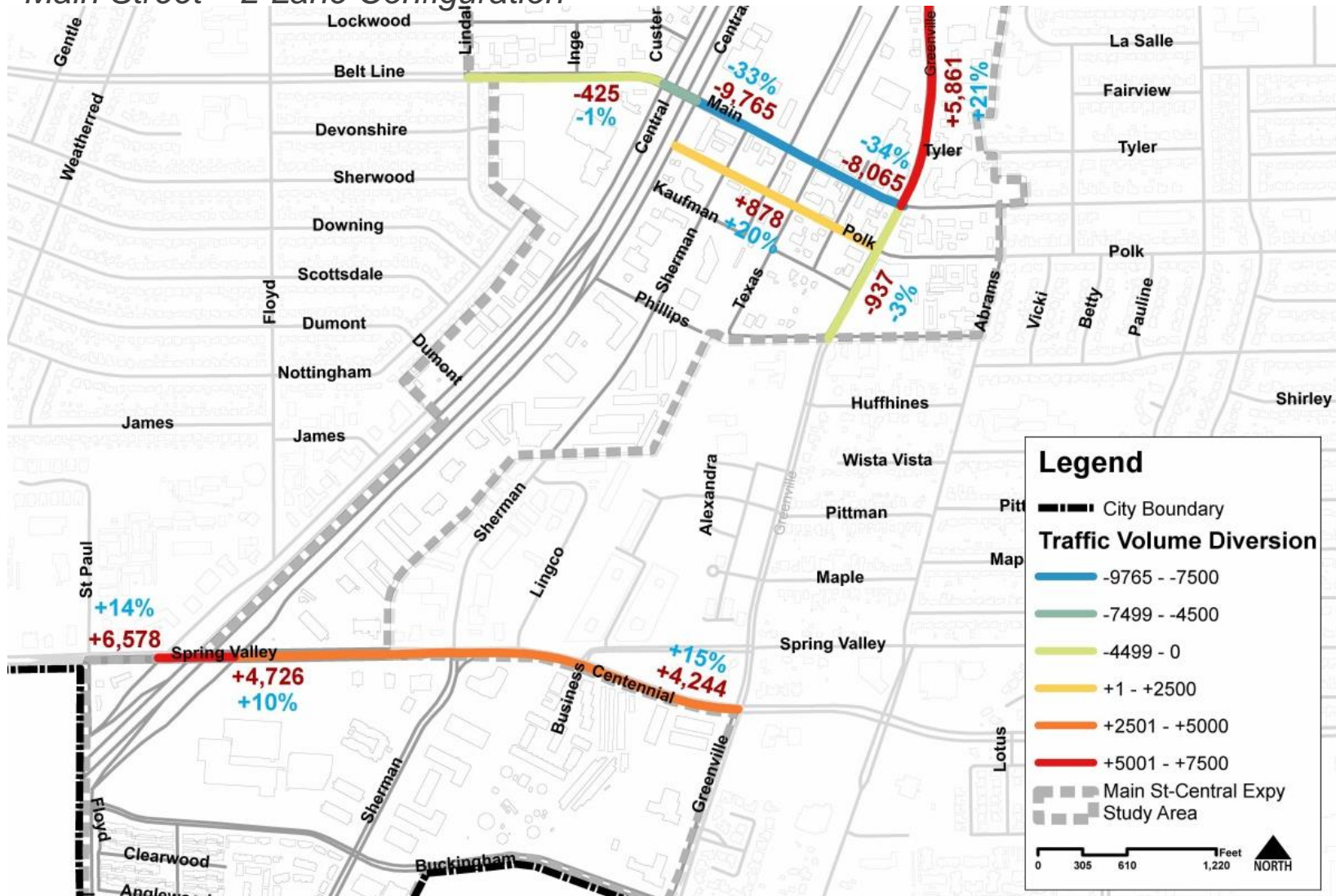
Transportation Analysis - Process / Assumptions

- Current condition (2013)
 - Collected 24 hour traffic counts
 - Reviewed intersection movements for AM and PM work periods along Main Street
- Future Condition (2035)
 - Added potential development assumed in Main Street / Central Vision Study
 - Evaluated traffic impacts for 2 and 4 lane Main Street scenarios
 - Impacts to Arapaho Road and West Spring Valley Road (diversion from Main Street) were also evaluated



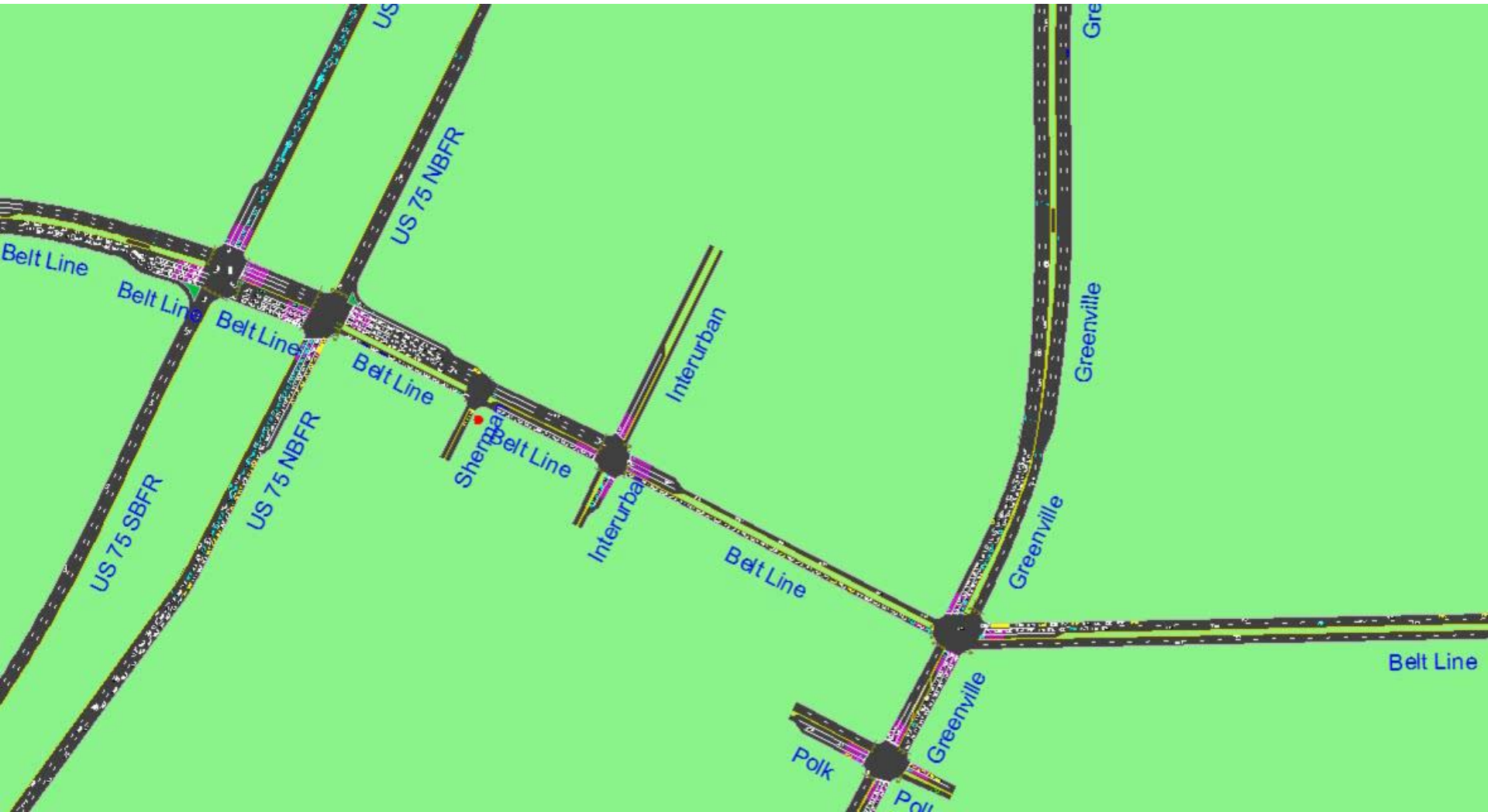
Transportation Analysis – Diversion of Trips – Spring Valley

Main Street – 2 Lane Configuration



Transportation Analysis – Main Street Scenarios

Main Street – 2 Lane Configuration



Transportation Analysis – Main Street Scenarios

Main Street – 4 Lane Configuration



Transportation Analysis – Main Street Implications

Main Street – 2 Lane Configuration

- Very congested traffic flow
- Level of Service F at Greenville, Interurban and US 75
- Approximately 10,000 trips diverted to Spring Valley and Arapaho (Worsened Level of Service)
- No additional rights-of-way required

Main Street – 4 Lane Configuration

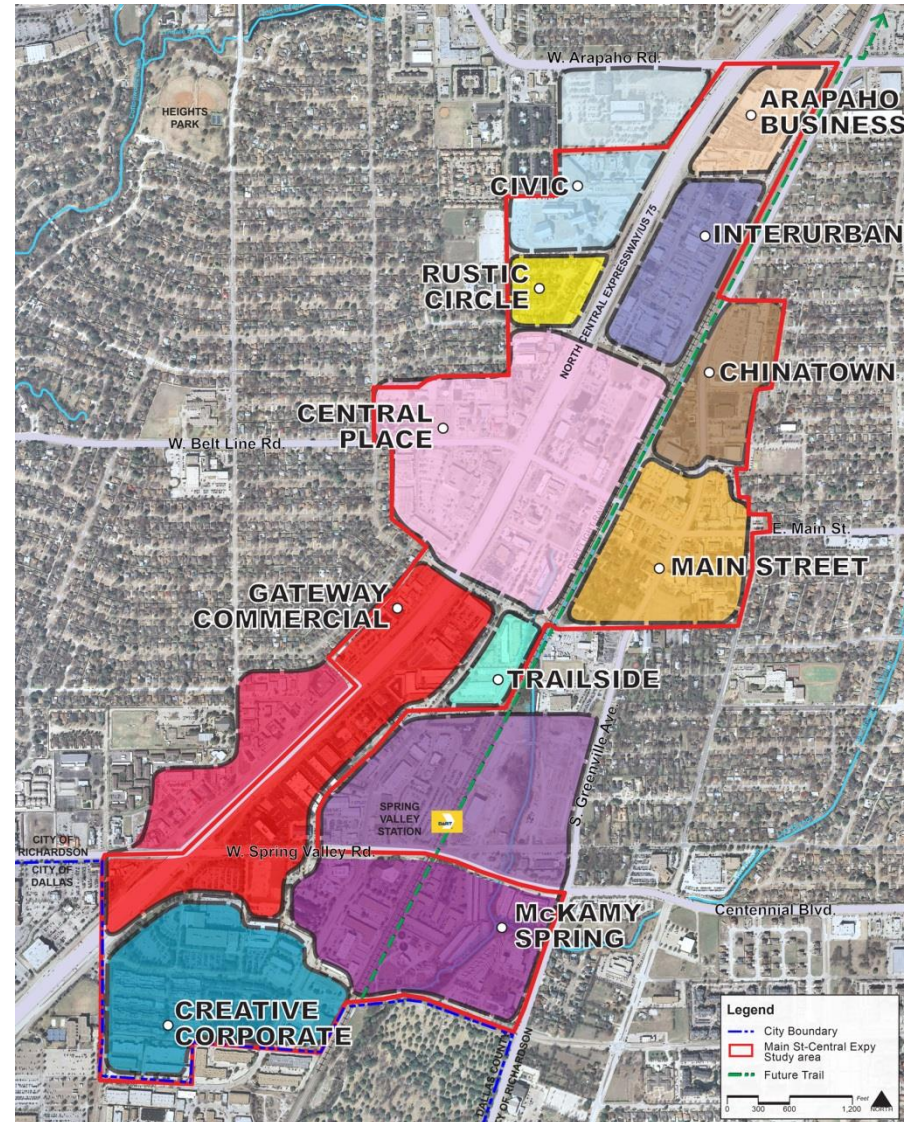
- Smoother traffic flow
- Level of Service E at Greenville, Interurban and US 75
- No diversion of trips to Spring Valley and Arapaho (No impact to Main Street retailers)
- Widening of road will require additional rights-of-way

Transportation Analysis – Discussion / Questions

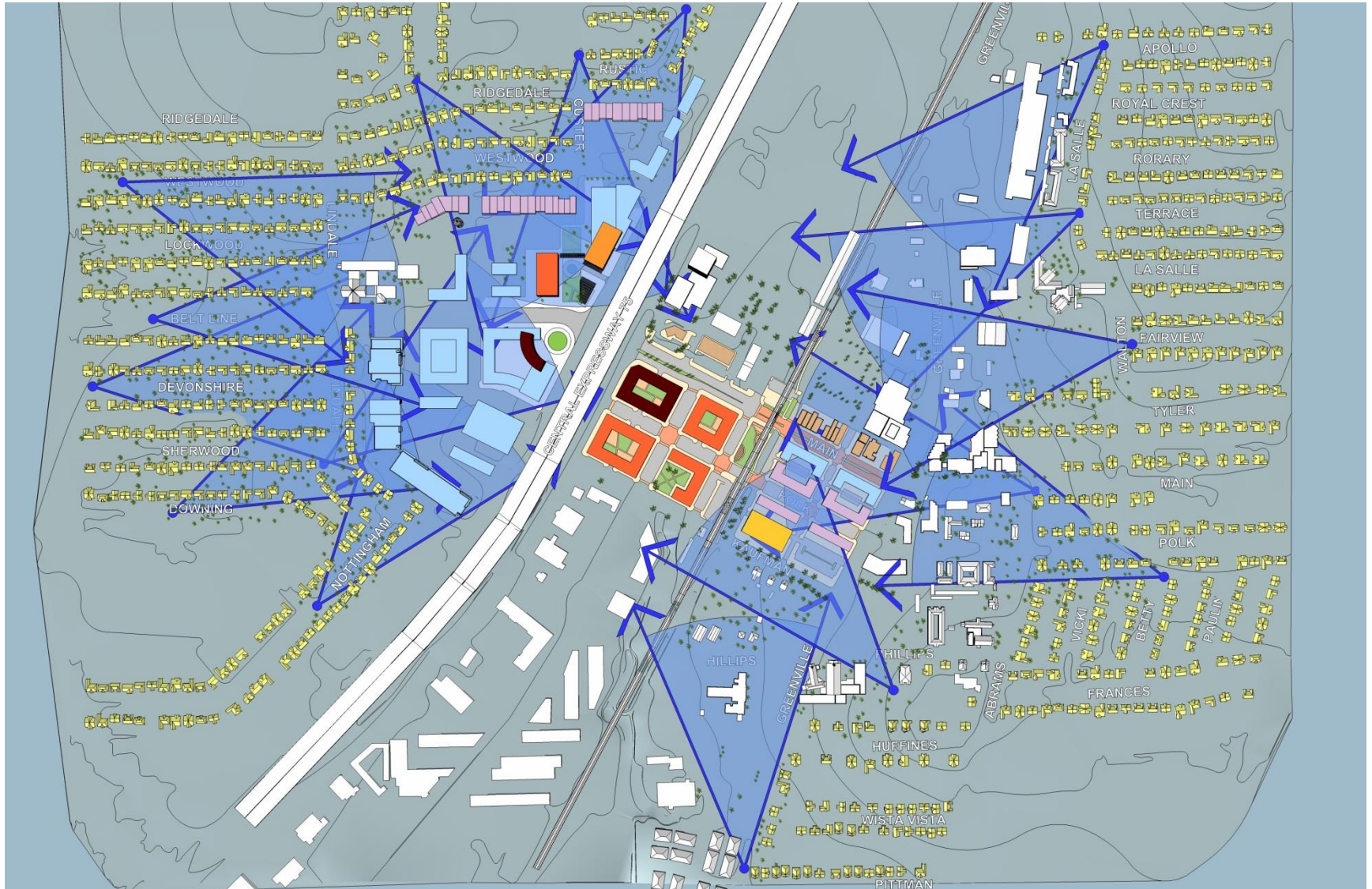
Viewshed Analysis and Conclusions

Viewshed Analysis - Process / Assumptions

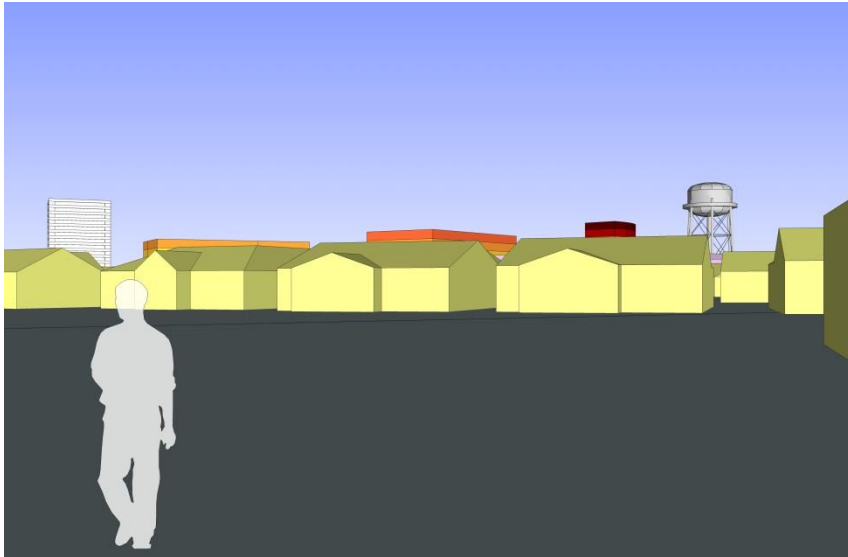
- Existing topography was incorporated into the model
- Locations chosen represent worst-case scenarios
- Views taken were without trees to represent worst-case scenarios
- Building heights were measured in stories *and* feet
- Distance from buildings is a factor in the viewers perception of the buildings



Locations Studied



Trees



Building Heights



Distance



Location 1 – Main Street / Apollo



Location 1 – Main Street / Apollo



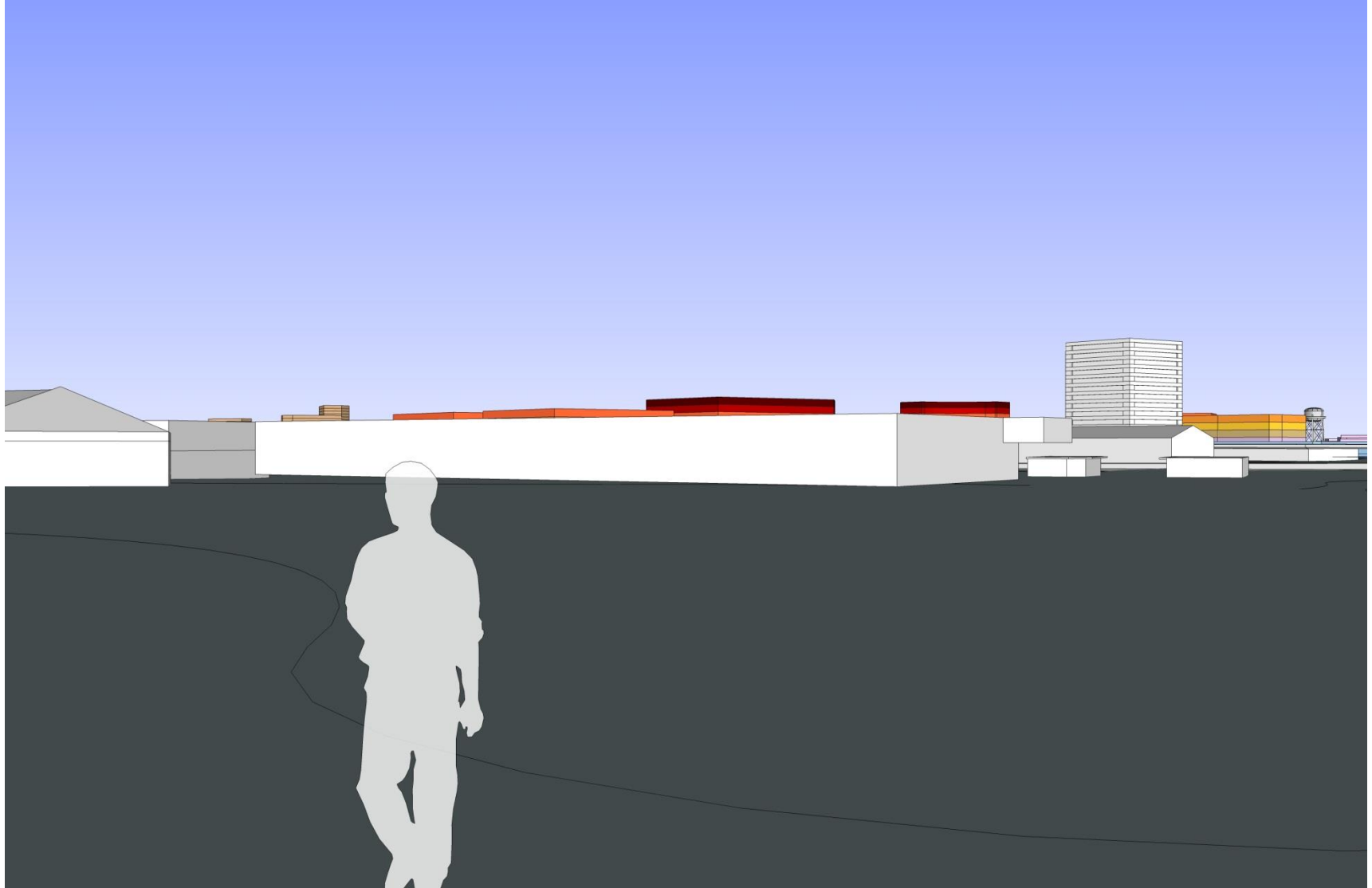
Location 1 – Main Street / Apollo



Location 2 – Main Street / Terrace



Location 2 – Main Street / Terrace



Location 2 – Main Street / Terrace



Location 3 – Main Street / Fairview



Location 3 – Main Street / Fairview



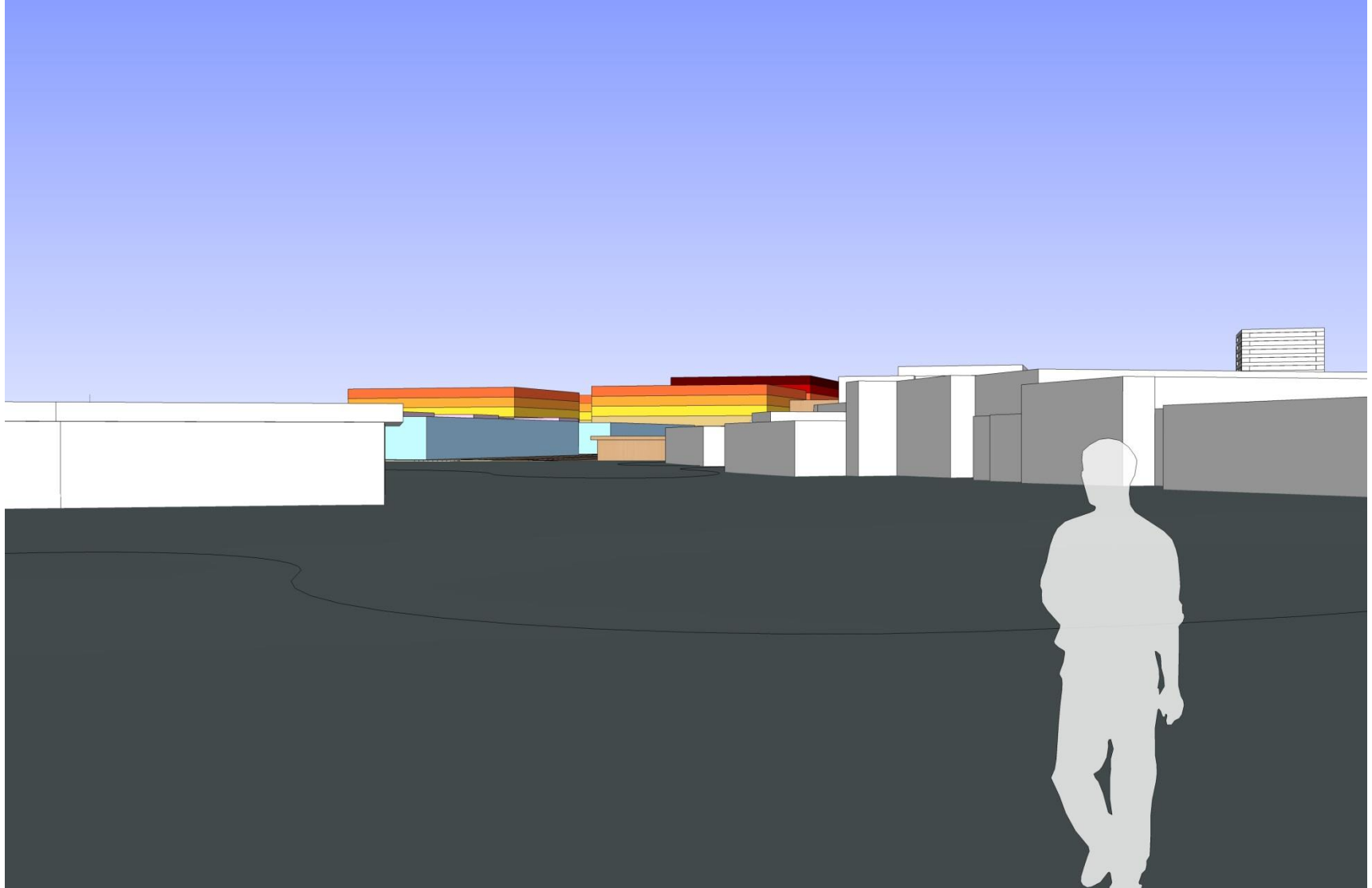
Location 3 – Main Street / Fairview



Location 4 – Main Street



Location 4 – Main Street



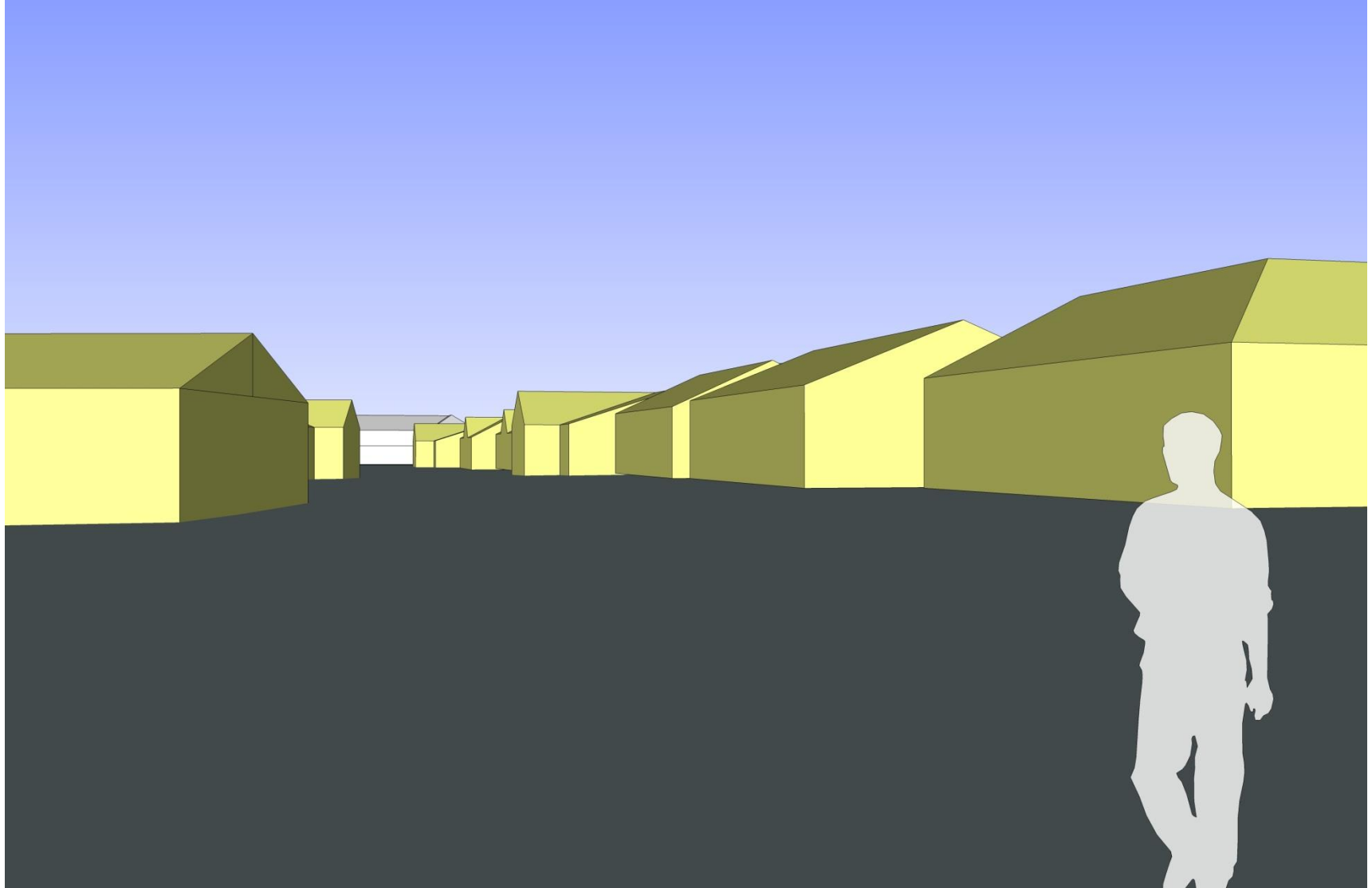
Location 4 – Main Street



Location 5 – Main Street / Betty



Location 5 – Main Street / Betty



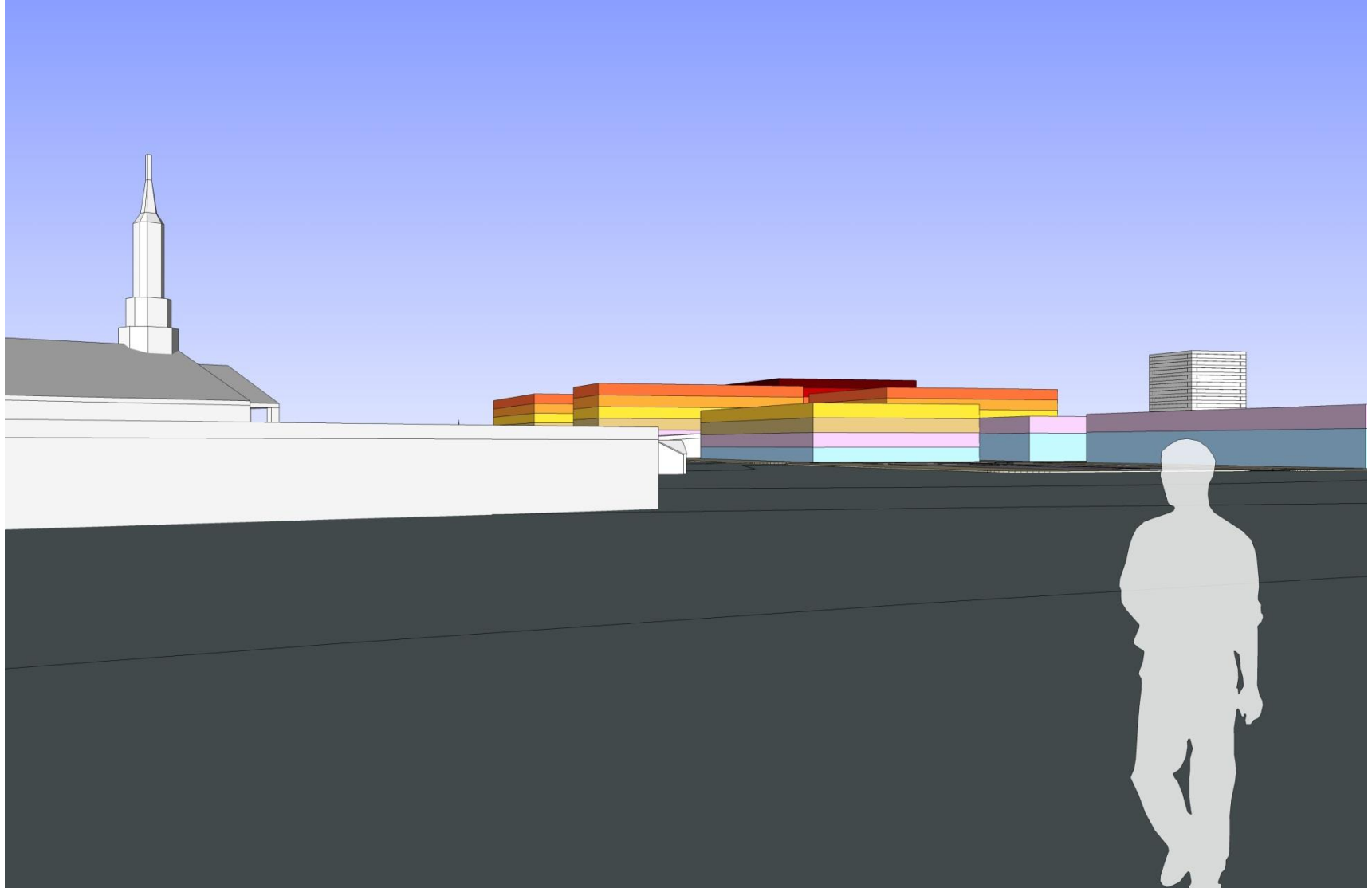
Location 5 – Main Street / Betty



Location 6 – Main Street / Huffines



Location 6 – Main Street / Huffines



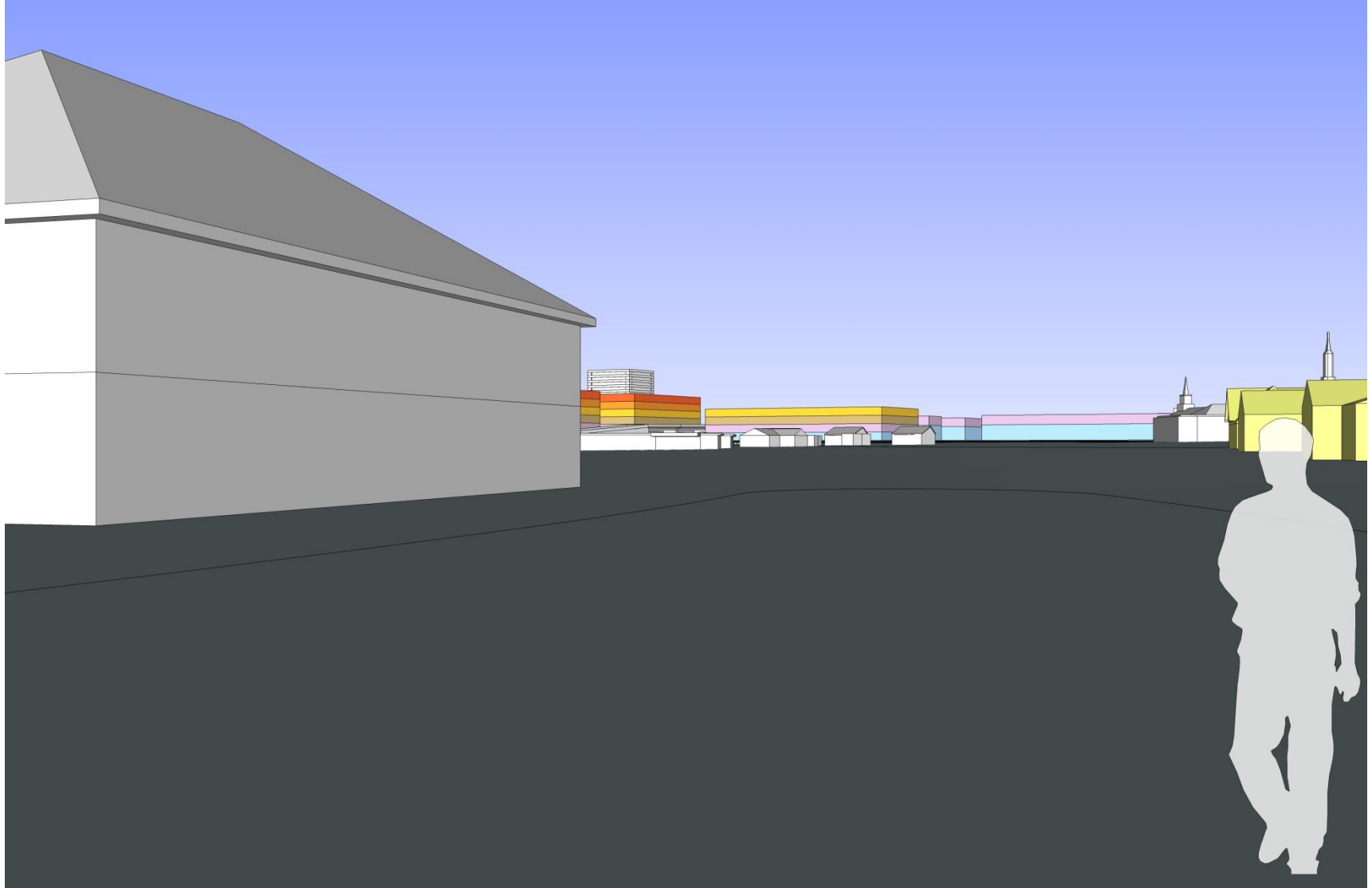
Location 6 – Main Street / Huffines



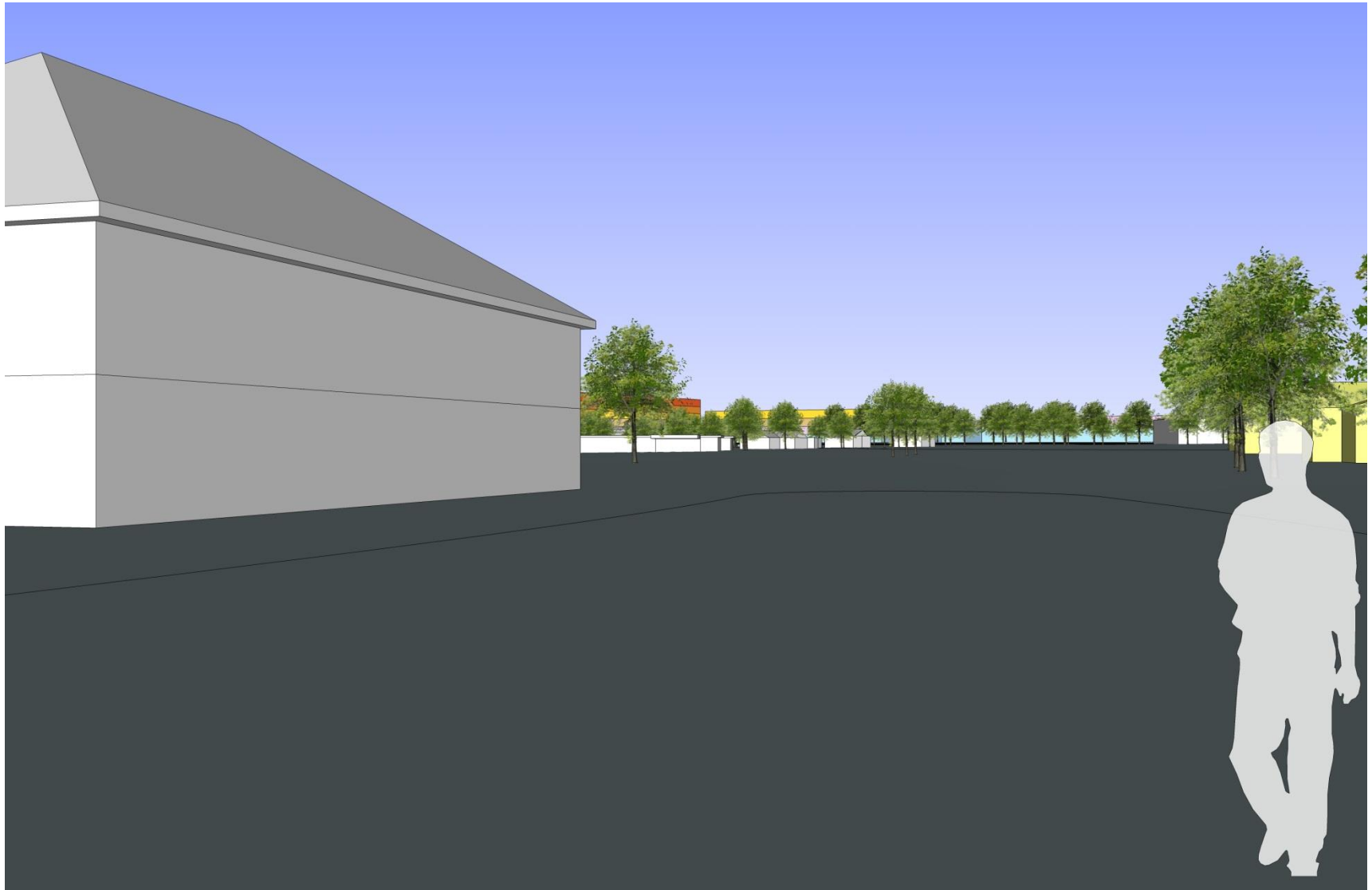
Location 7 – Main Street / Pittman



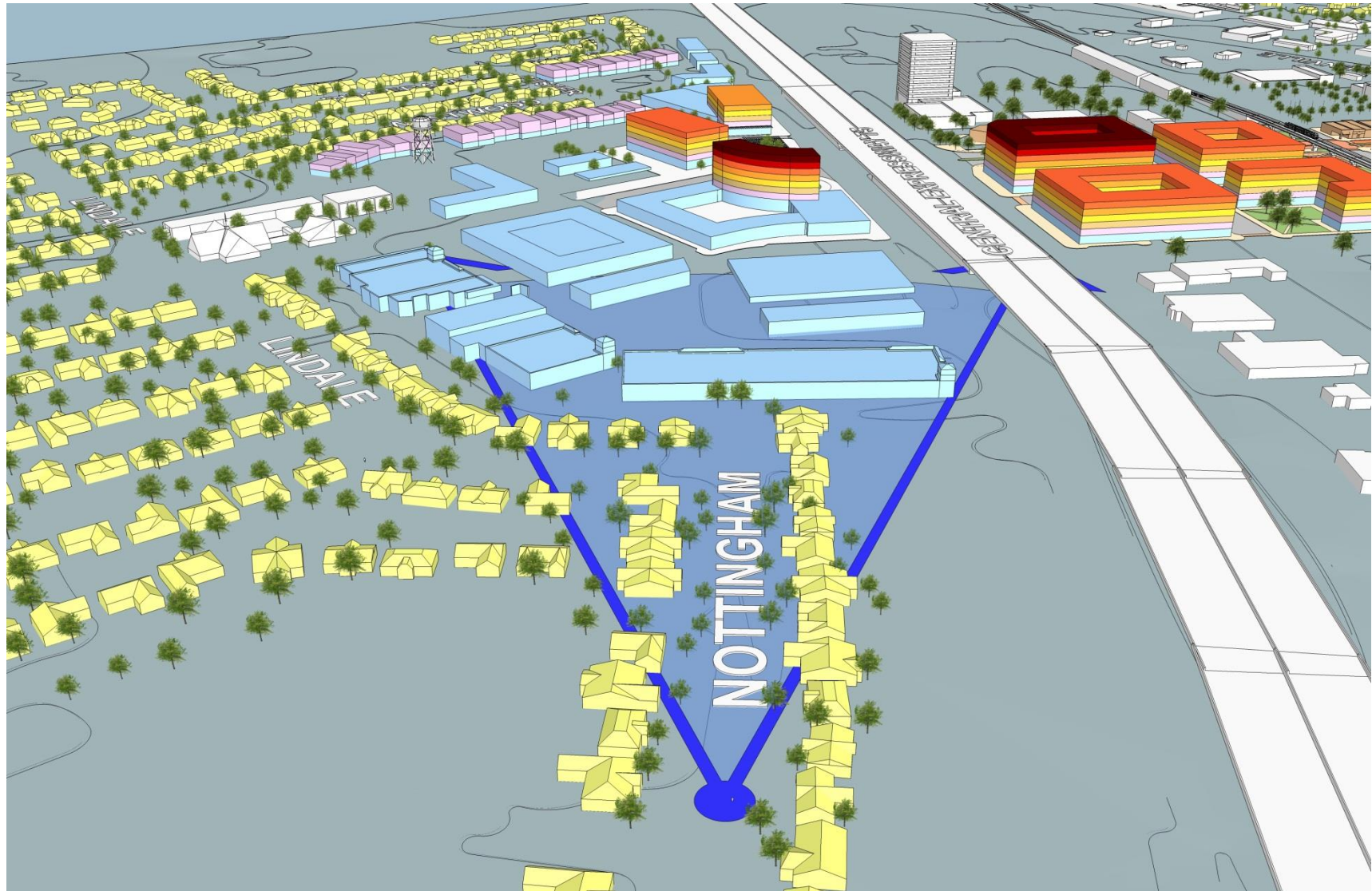
Location 7 – Main Street / Pittman



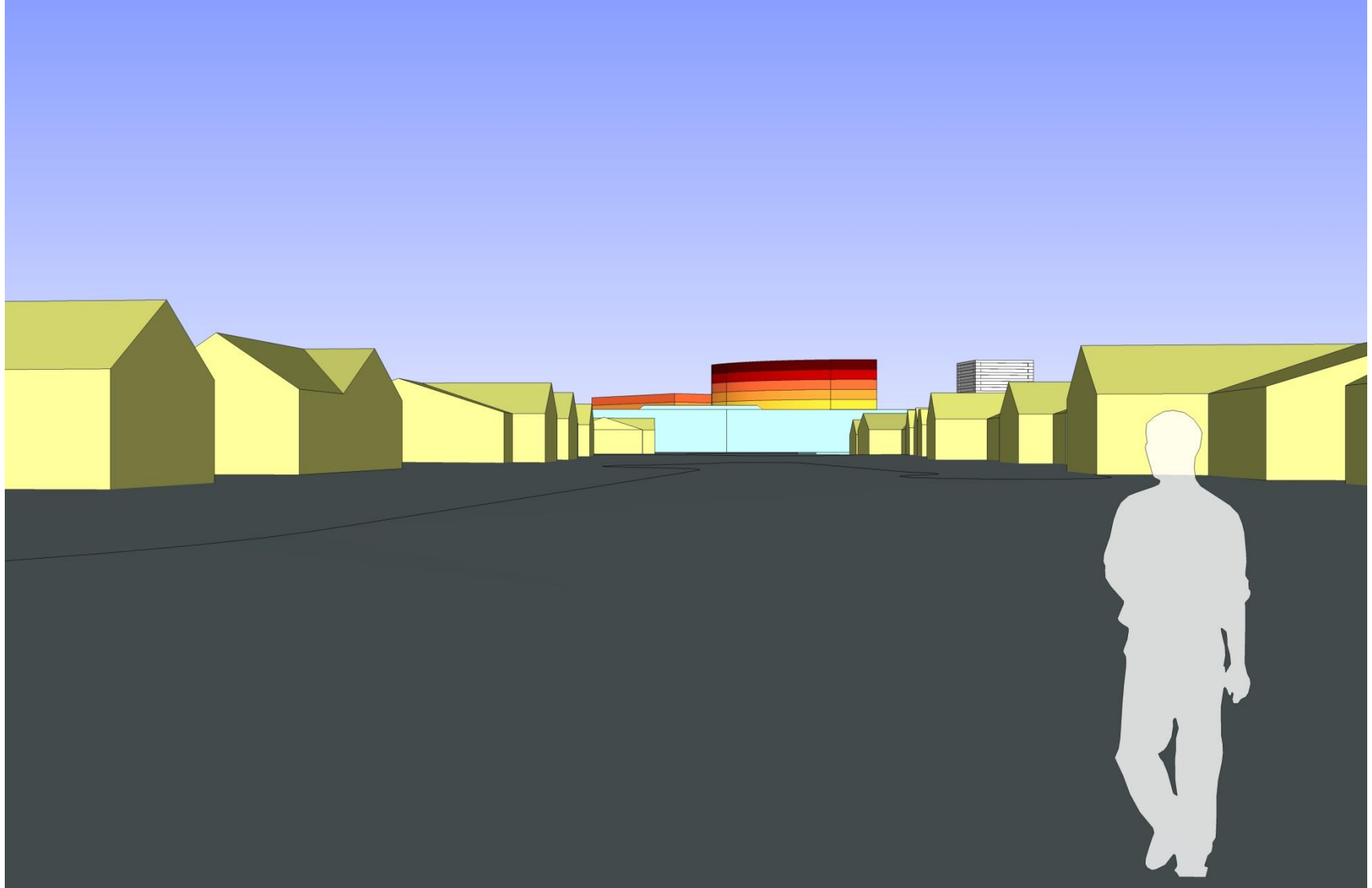
Location 7 – Main Street / Pittman



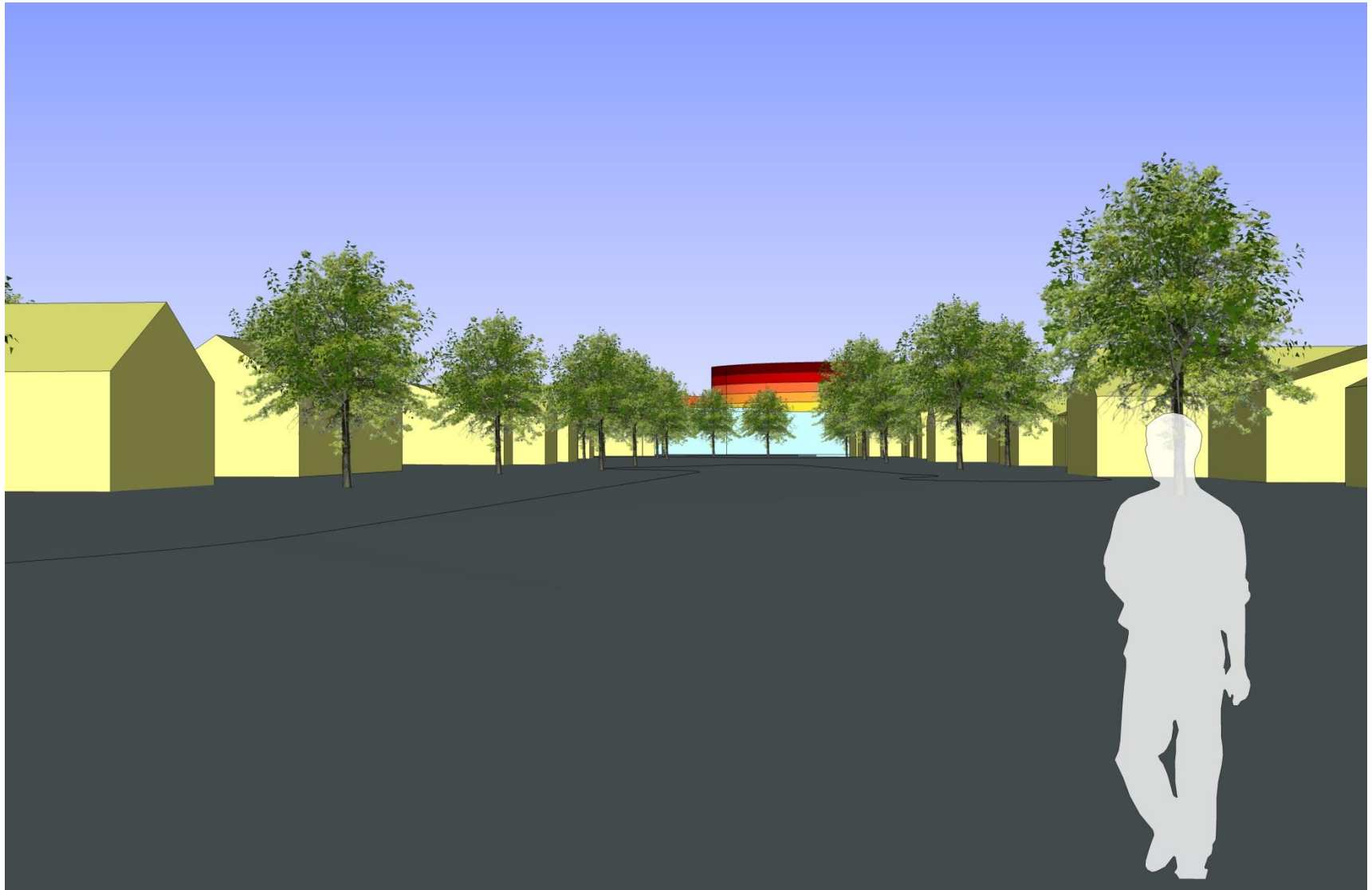
Location 8 – Belt Line / Nottingham



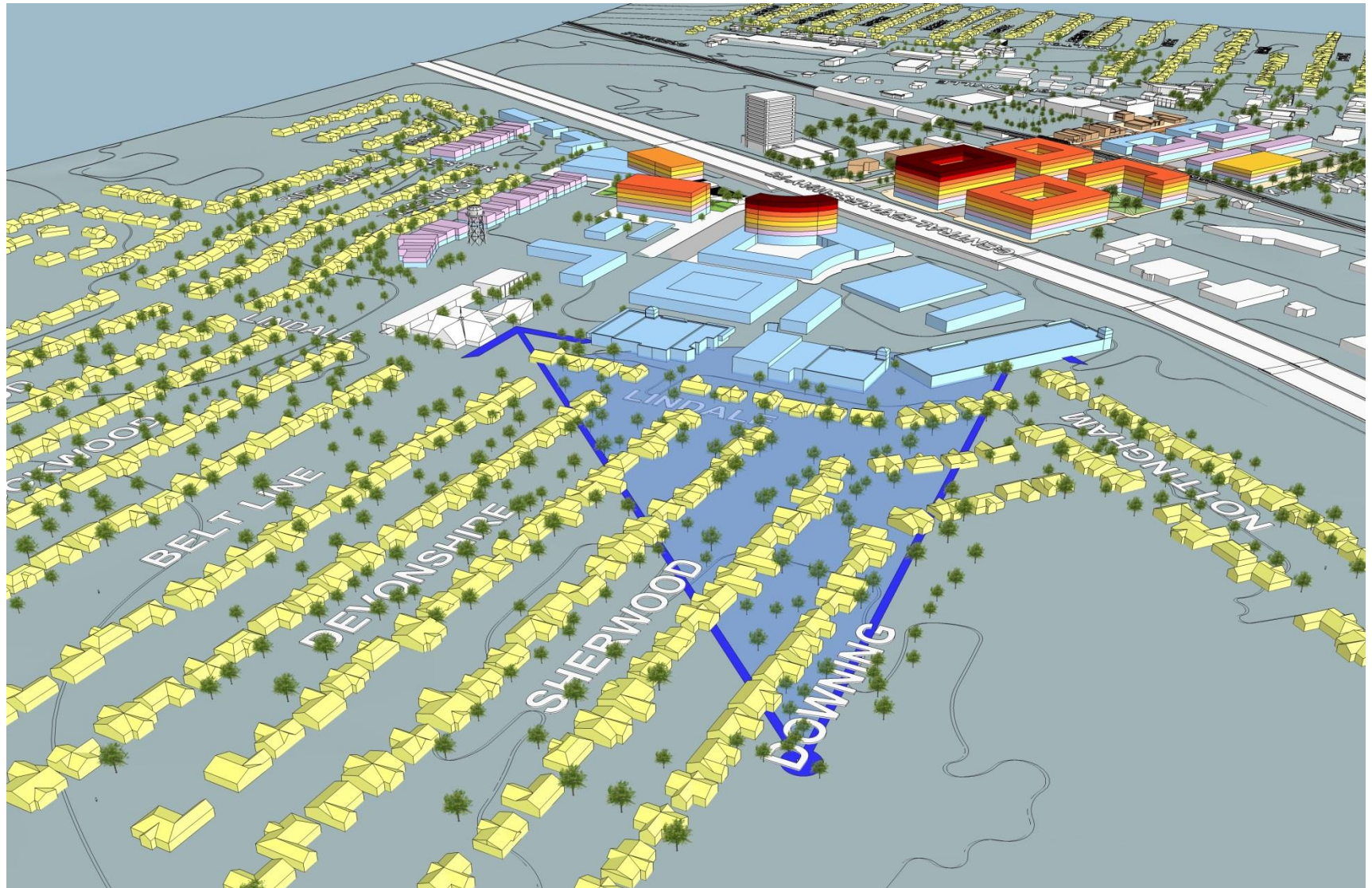
Location 8 – Belt Line / Nottingham



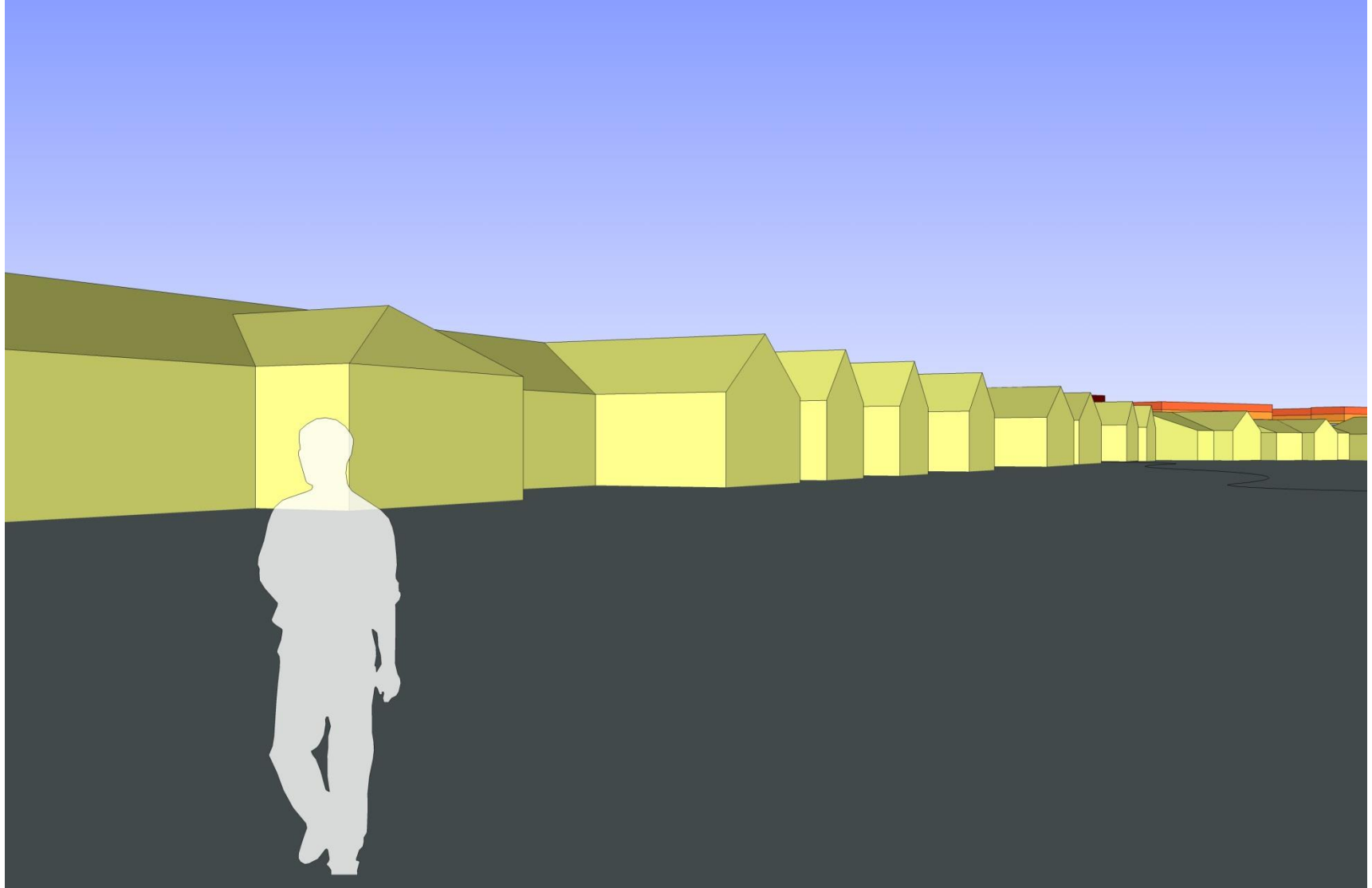
Location 8 – Belt Line / Nottingham



Location 9 – Belt Line / Downing



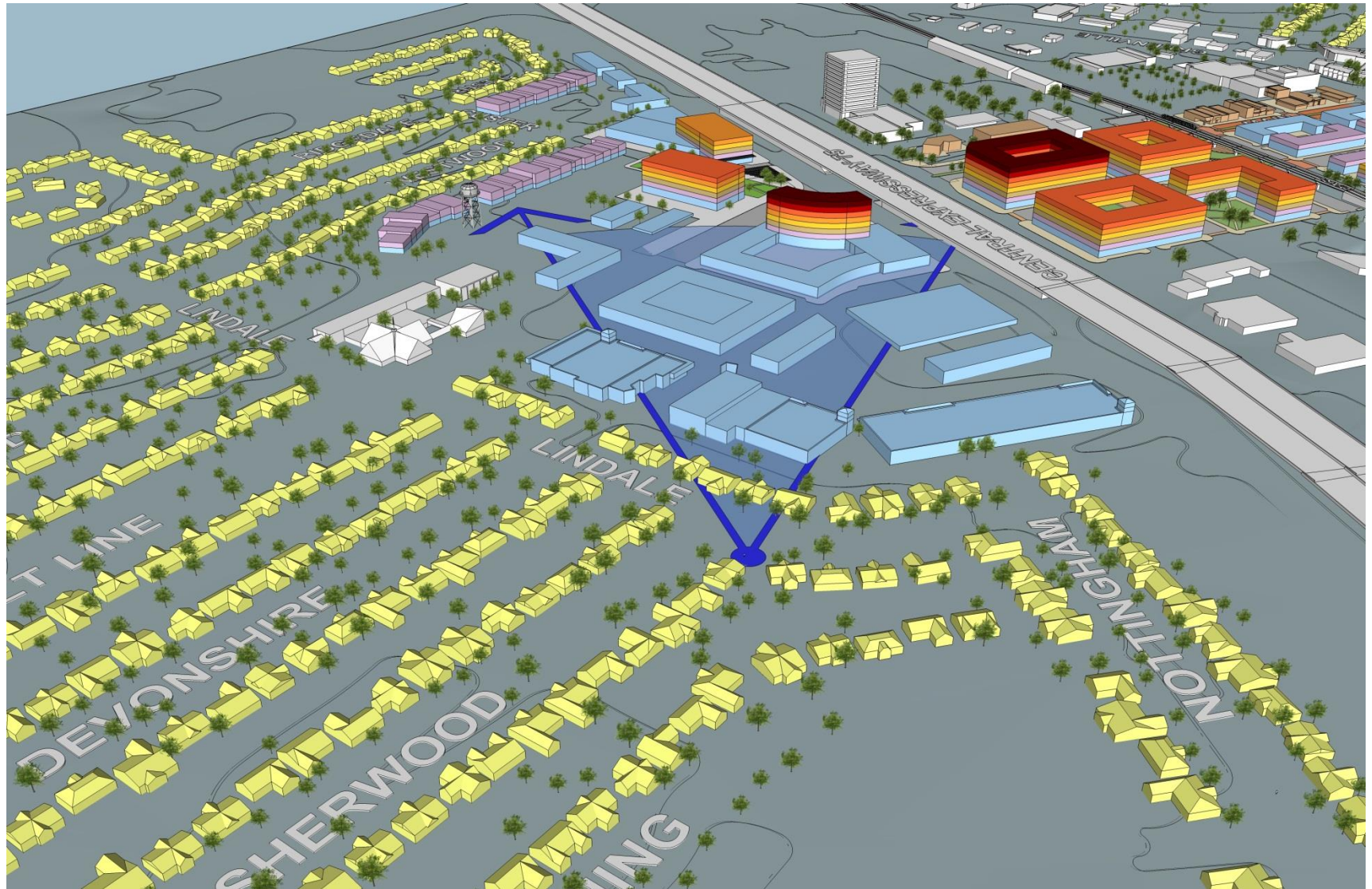
Location 9 – Belt Line / Downing



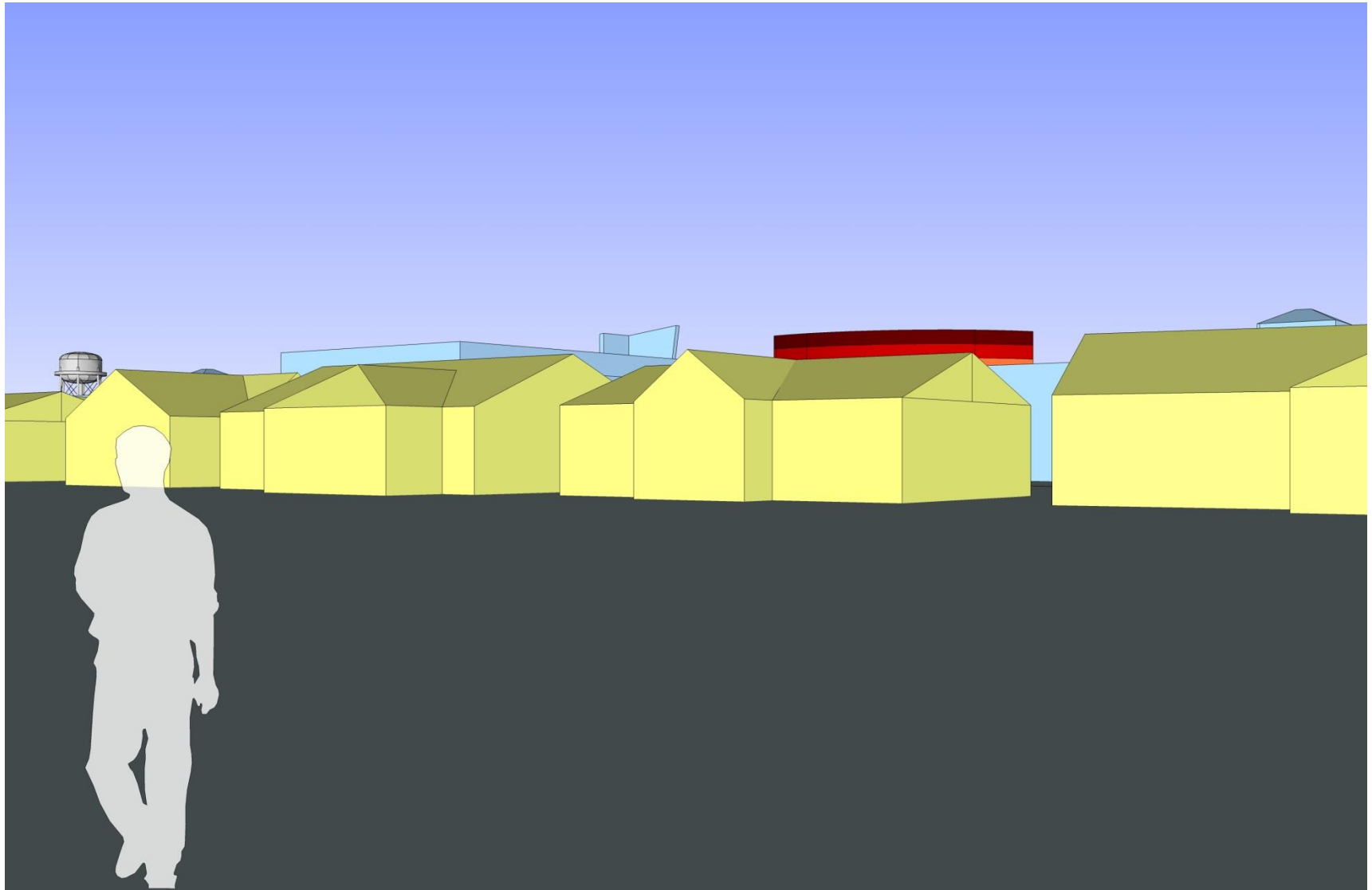
Location 9 – Belt Line / Downing



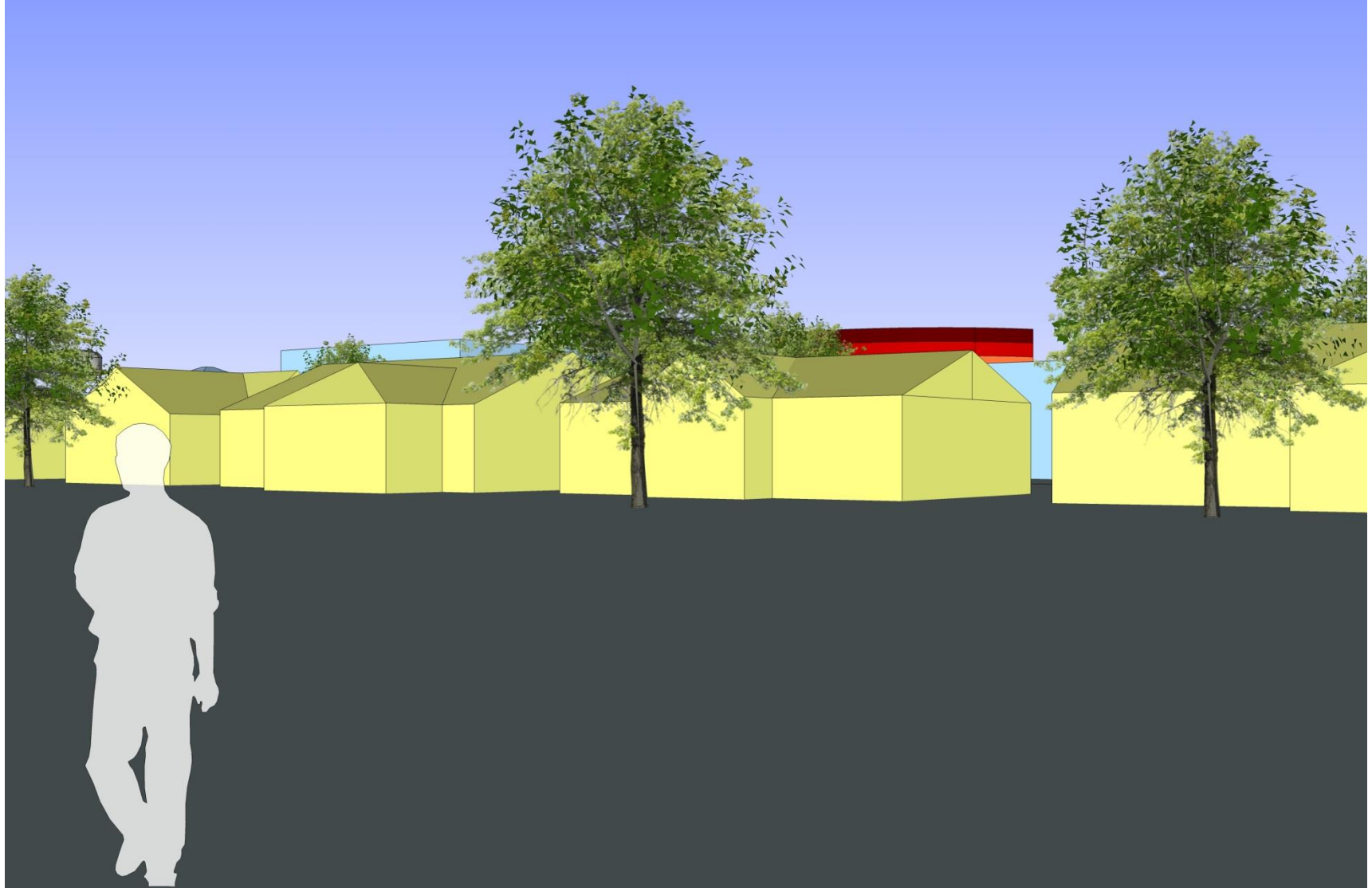
Location 10 – Belt Line / Sherwood



Location 10 – Belt Line / Sherwood



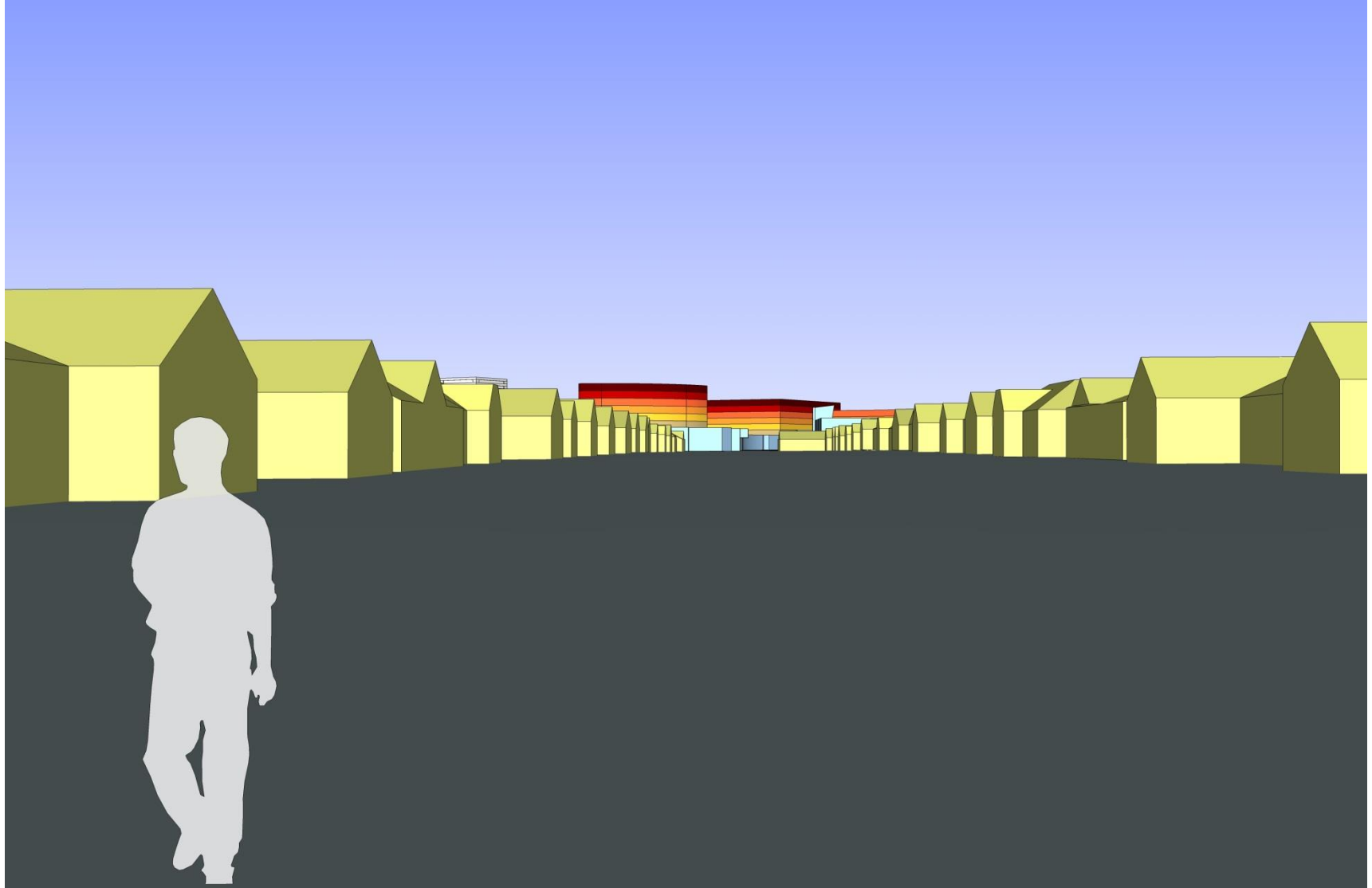
Location 10 – Belt Line / Sherwood



Location 11 – Belt Line / Devonshire



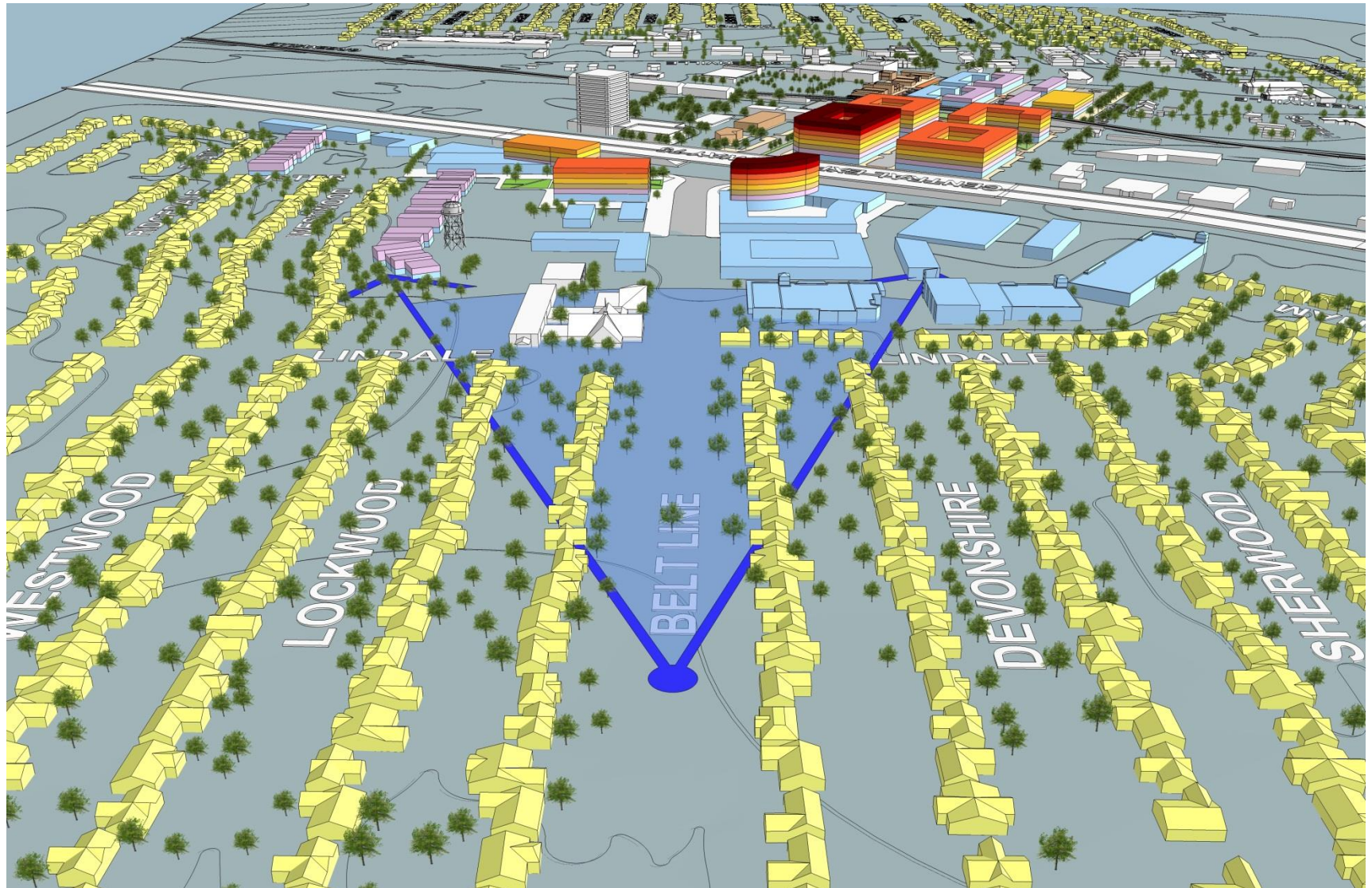
Location 11 – Belt Line / Devonshire



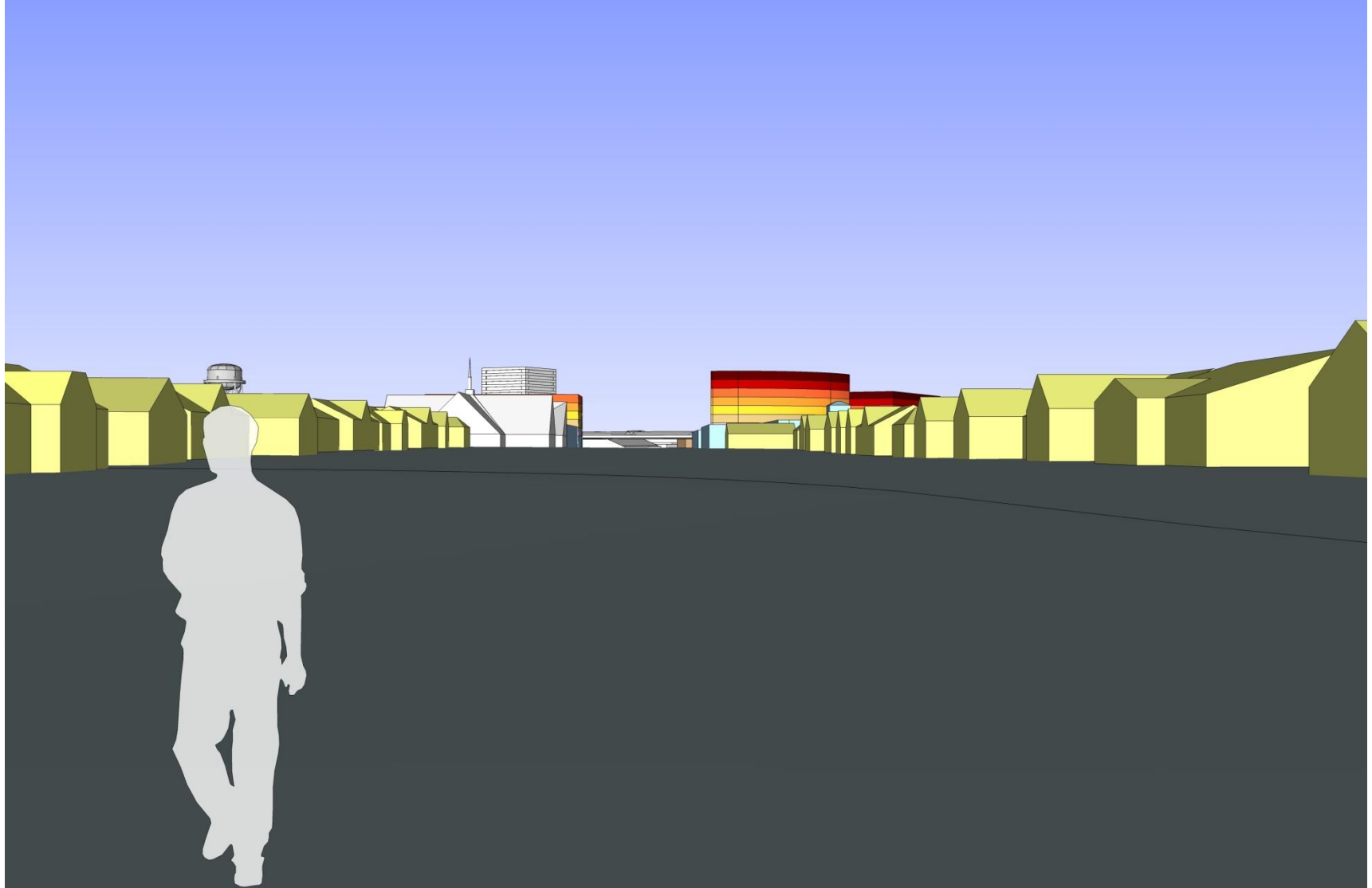
Location 11 – Belt Line / Devonshire



Location 12 – Belt Line



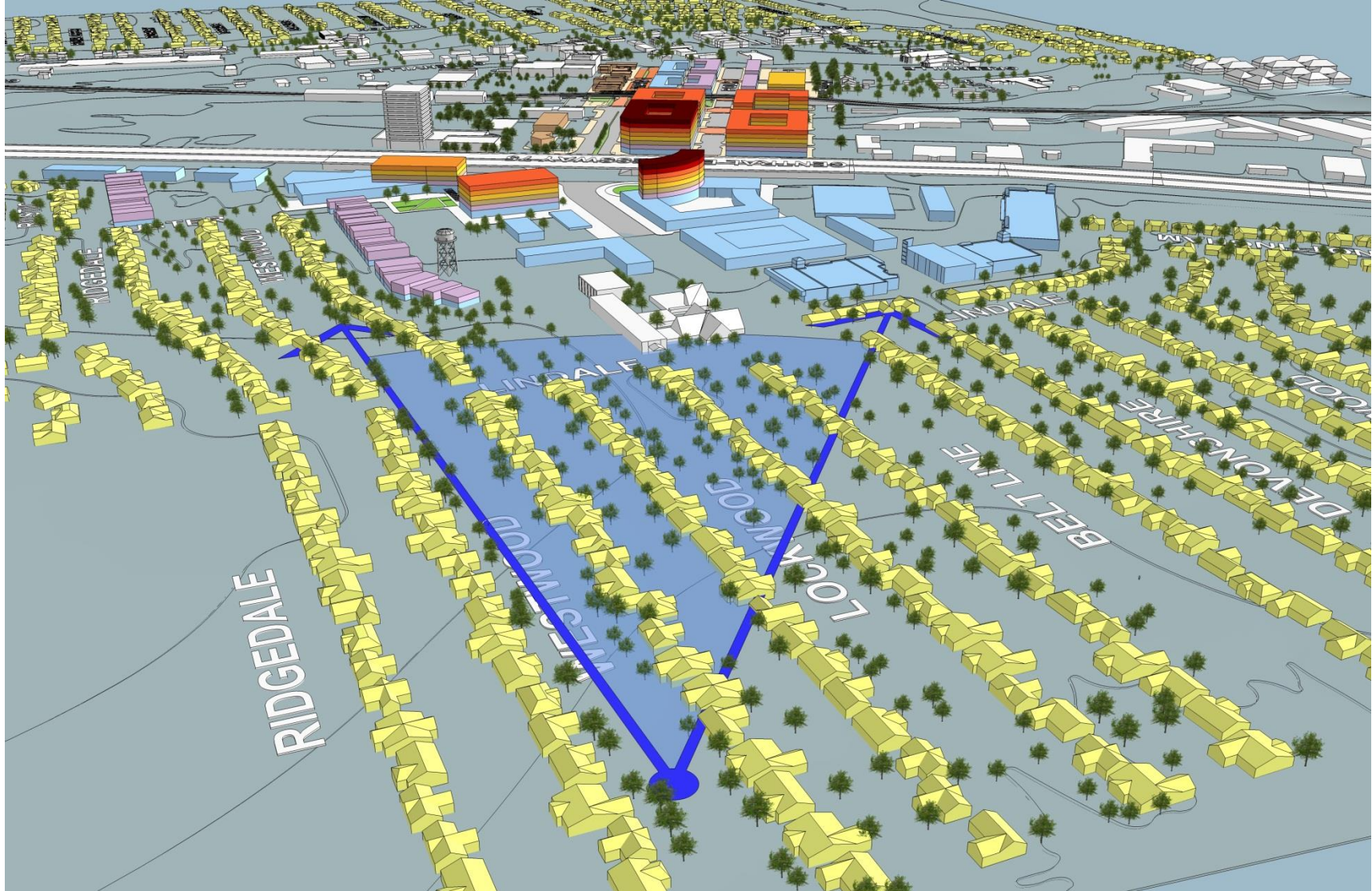
Location 12 – Belt Line



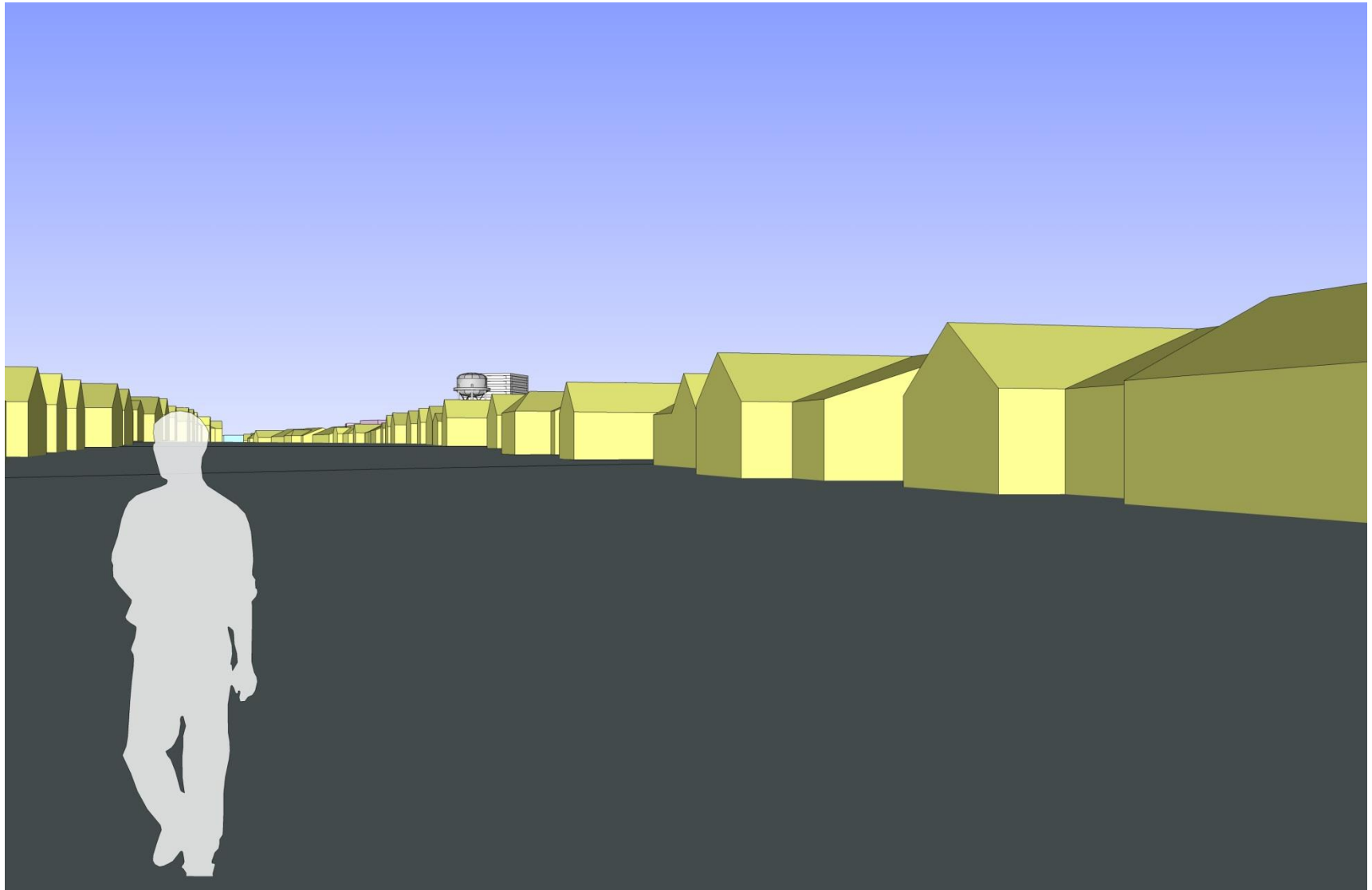
Location 12 – Belt Line



Location 13 – Belt Line / Westwood



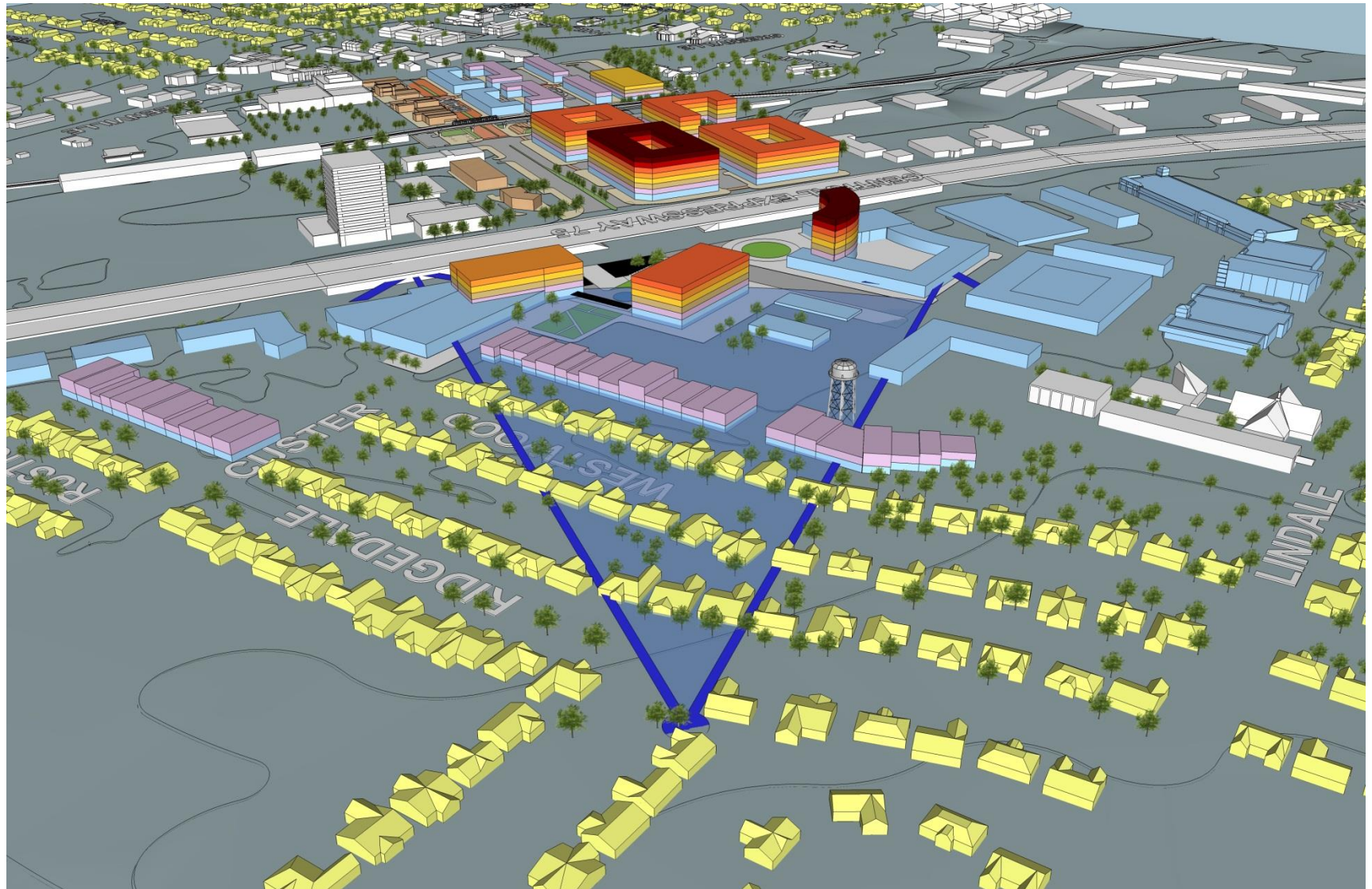
Location 13 – Belt Line / Westwood



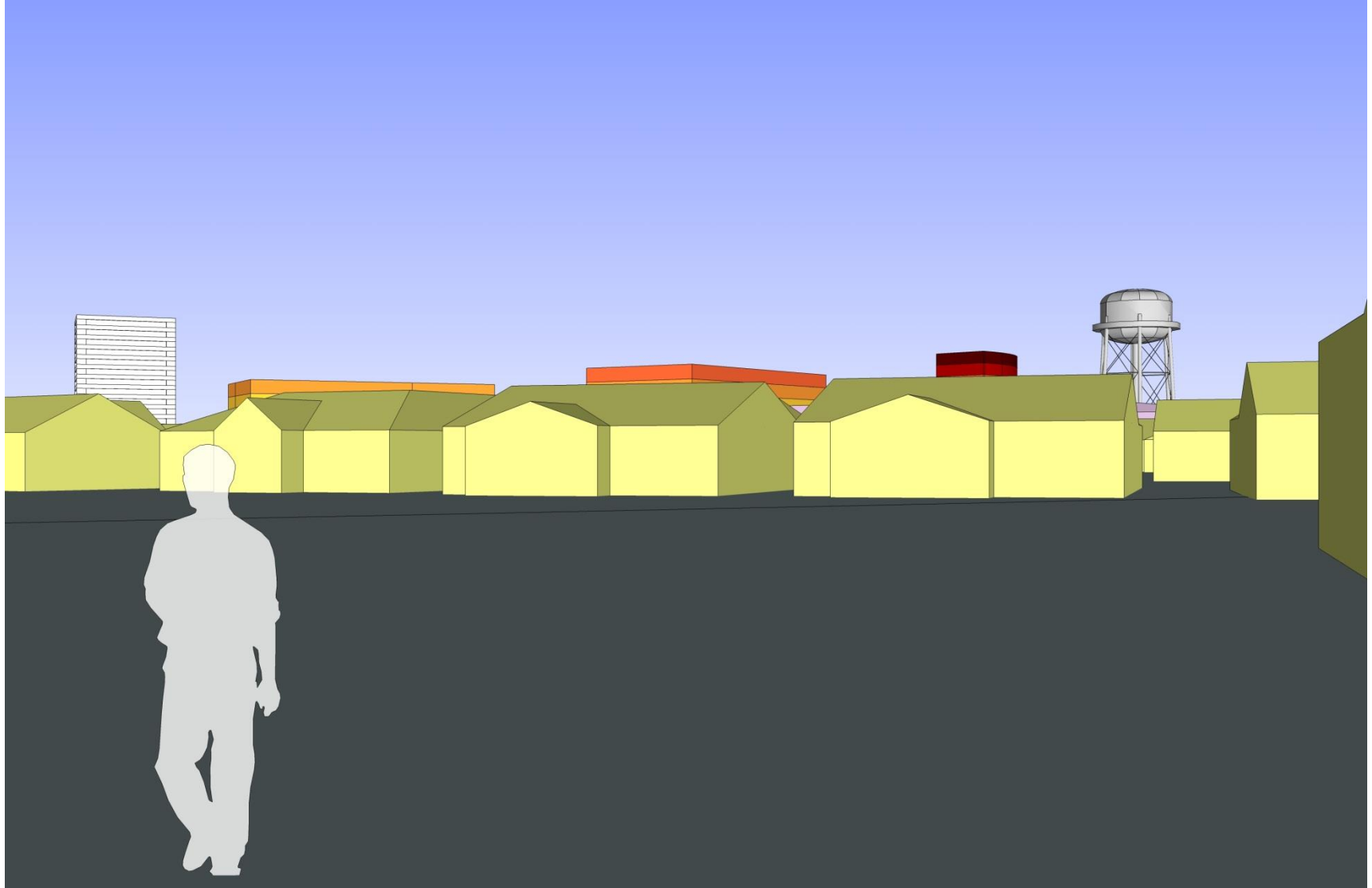
Location 13 – Belt Line / Westwood



Location 14 – Belt Line / Ridgedale



Location 14 – Belt Line / Ridgedale



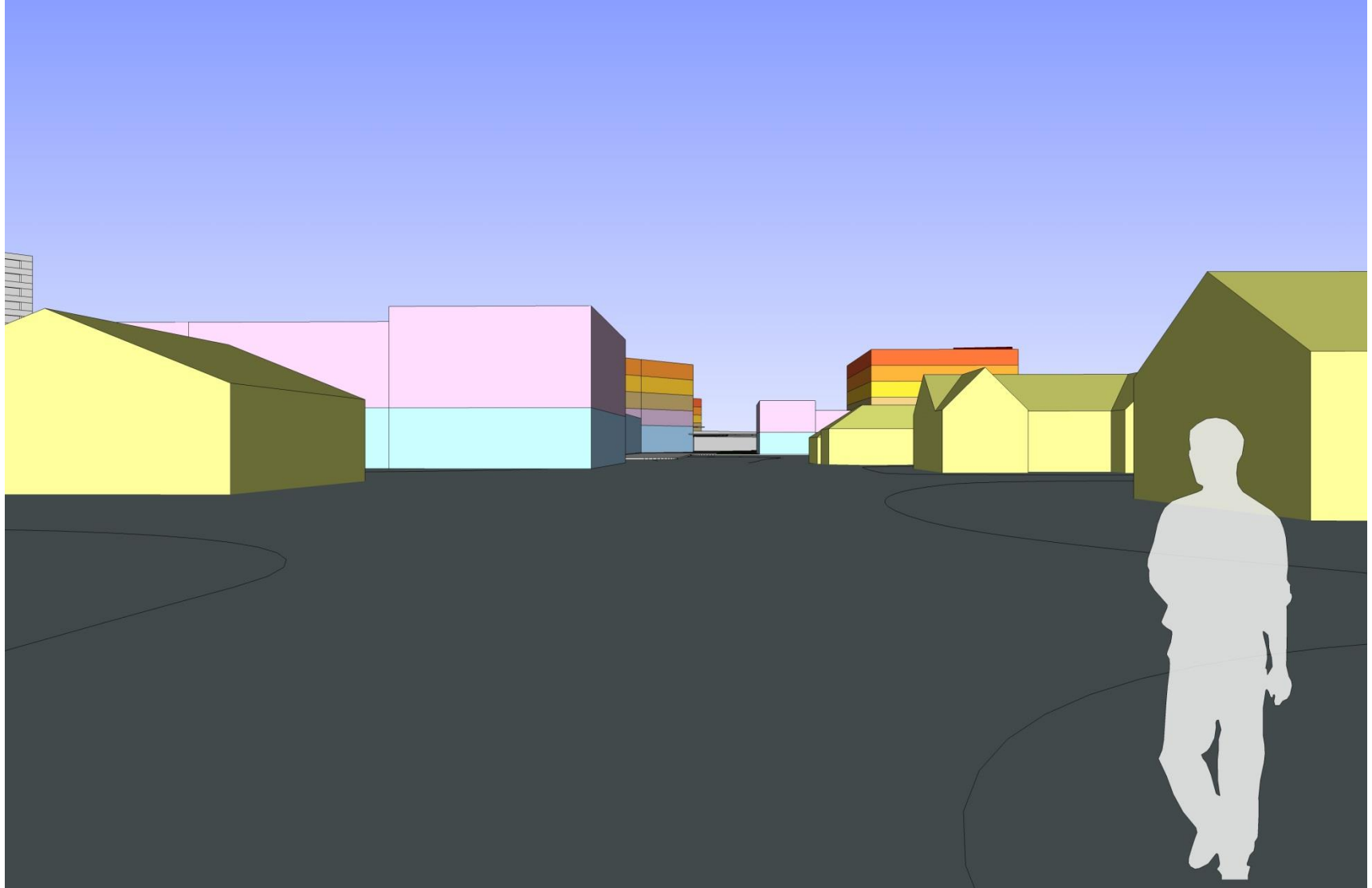
Location 14 – Belt Line / Ridgedale



Location 15 – Belt Line / Custer



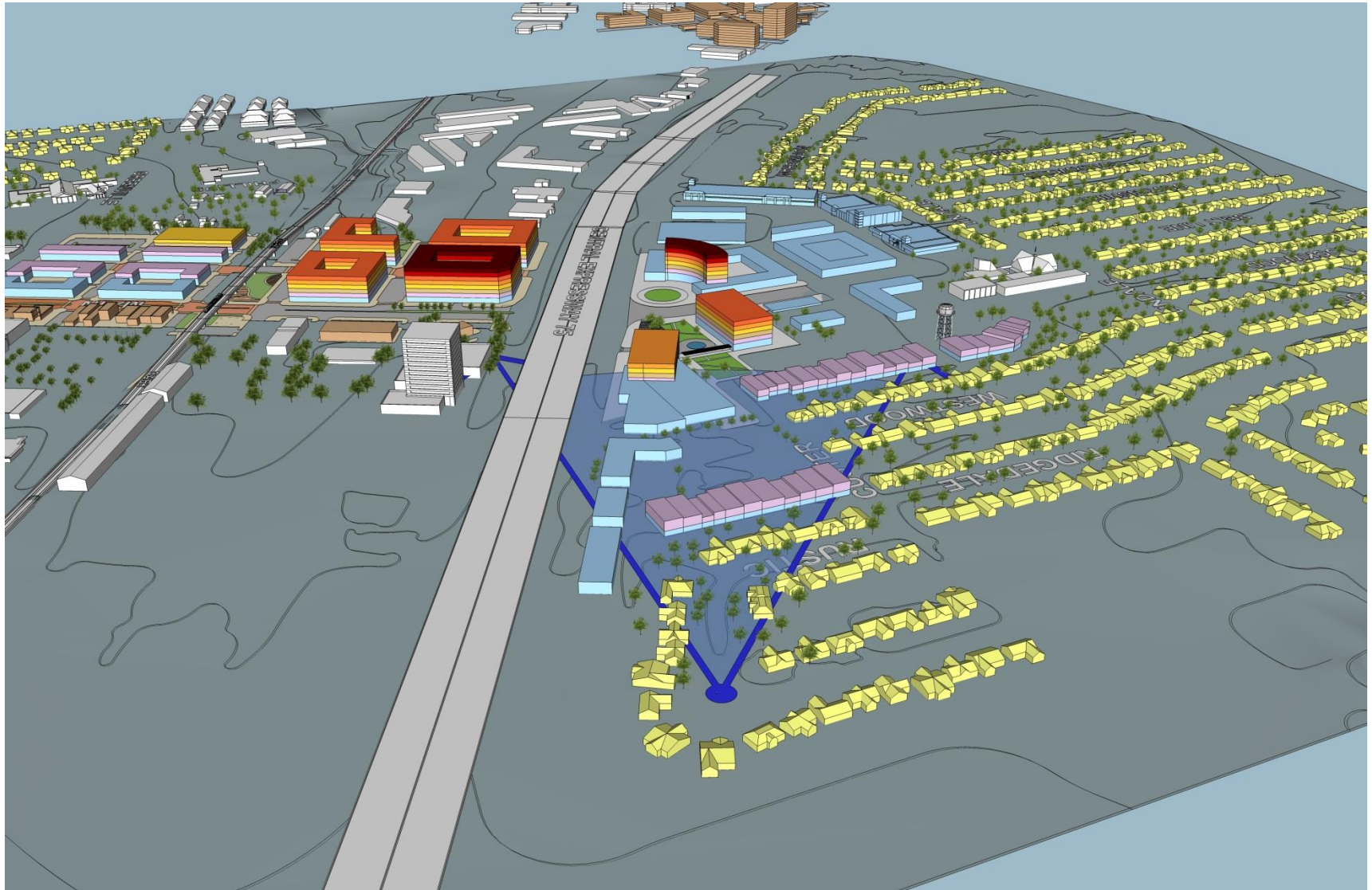
Location 15 – Belt Line / Custer



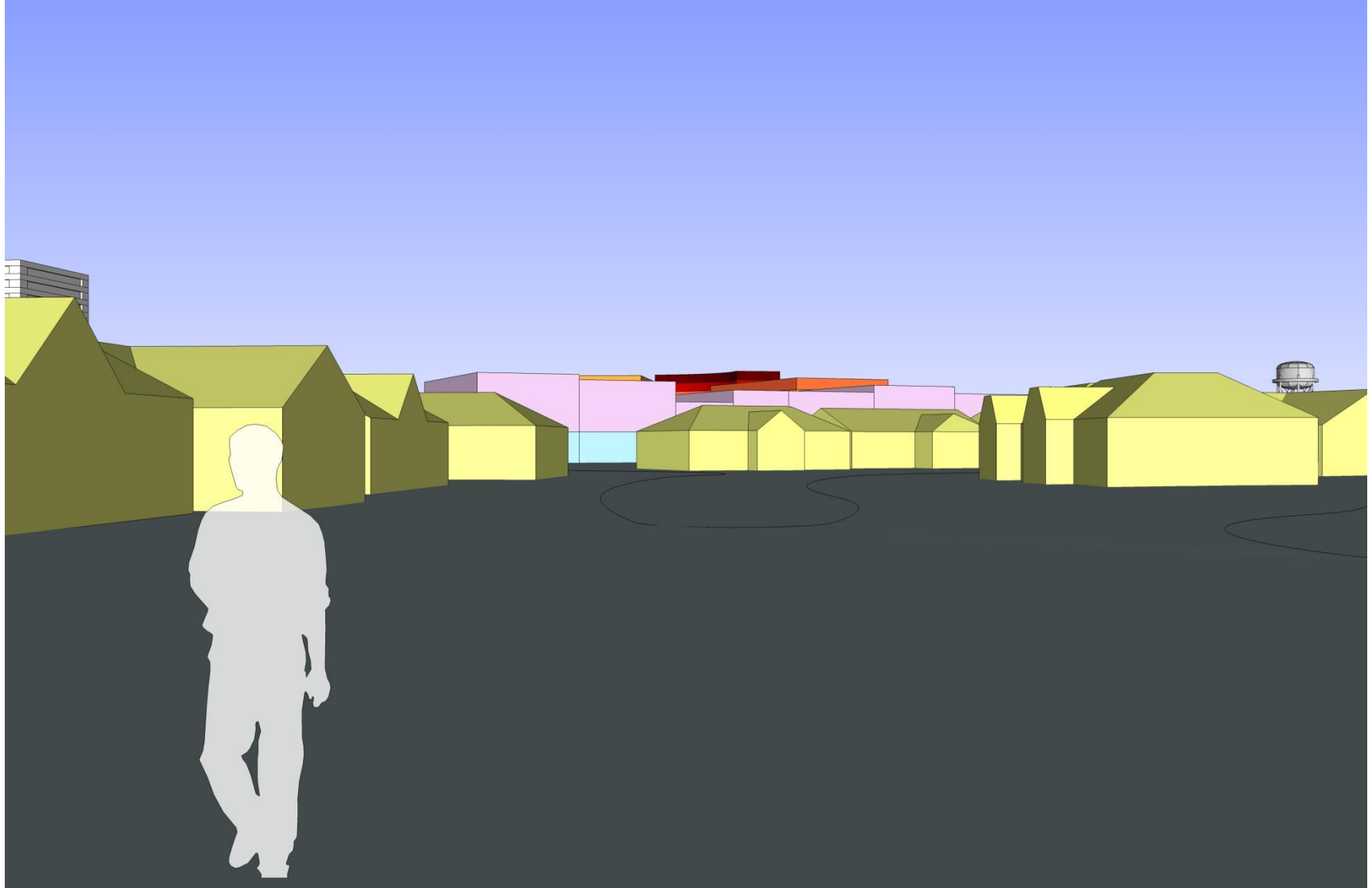
Location 15 – Belt Line / Custer



Location 16 – Belt Line / Rustic



Location 16 – Belt Line / Rustic



Location 16 – Belt Line / Rustic



Viewshed Analysis – Discussion / Questions

Next Steps

Next Steps

- Based upon feedback received tonight, the Jacobs Team will conduct a Community Open House to share the vision direction for the 4 sub-districts, confirm the additional transportation and viewshed analyses results, and share Council's direction
- Following the Community Open House, the Team will prepare alternative cross sections for Belt Line / Main Street
- The Team will brief the City Council in June on the comments received at the Community Open House, present the Belt Line / Main Street cross sections, and will provide recommendations to the City Council related to maximum building heights
- Based upon Council feedback, the Team will refine alternative cross sections, and will prepare draft zoning documents for the four subdistricts for stakeholder and community discussions

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Image Source – Richardson Public Library