

# HINGHAM



## South Hingham Transportation Assessment

*February 2, 2016 Update*

Prepared By:



Prepared For:  
Town of Hingham Massachusetts



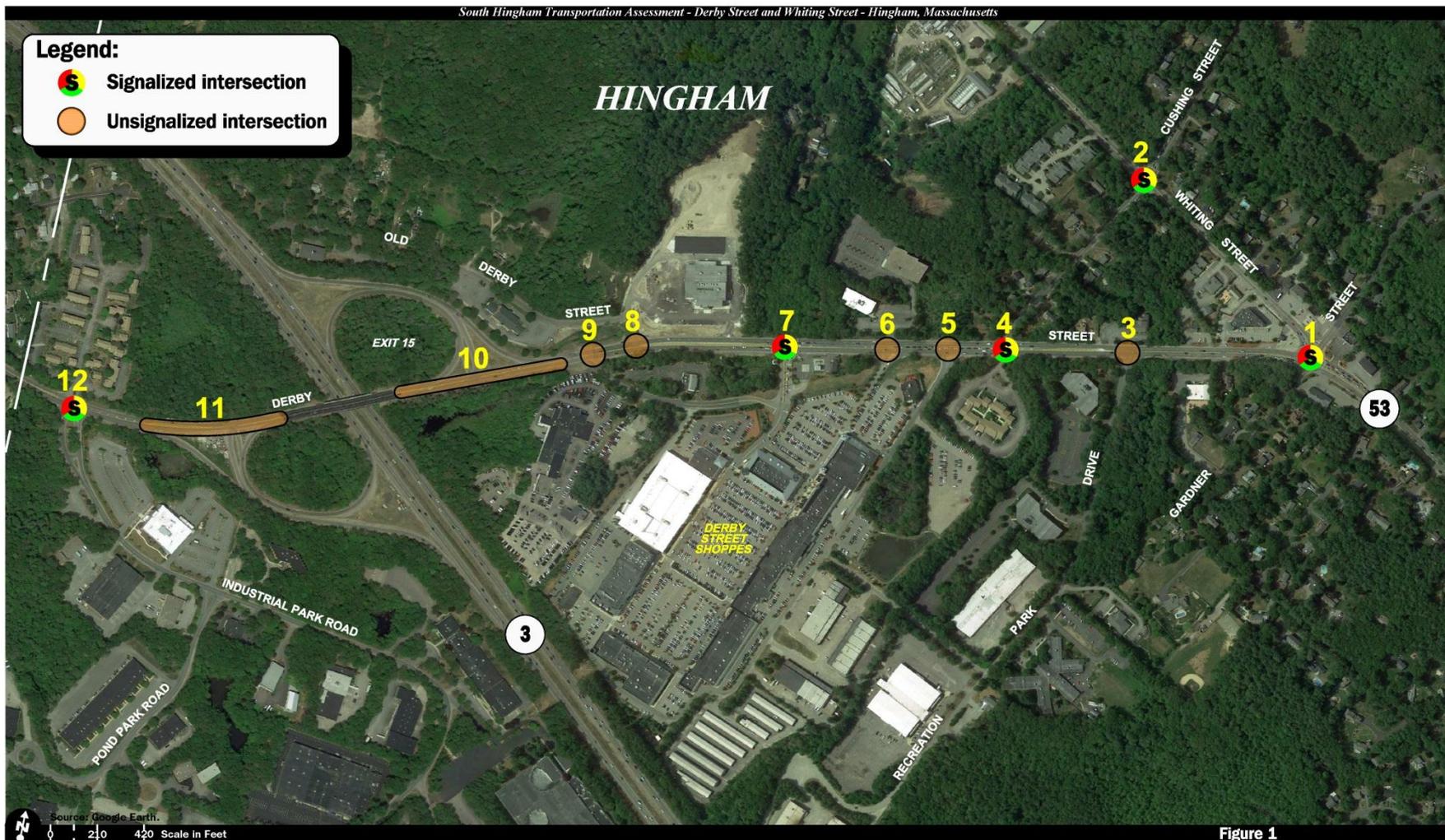
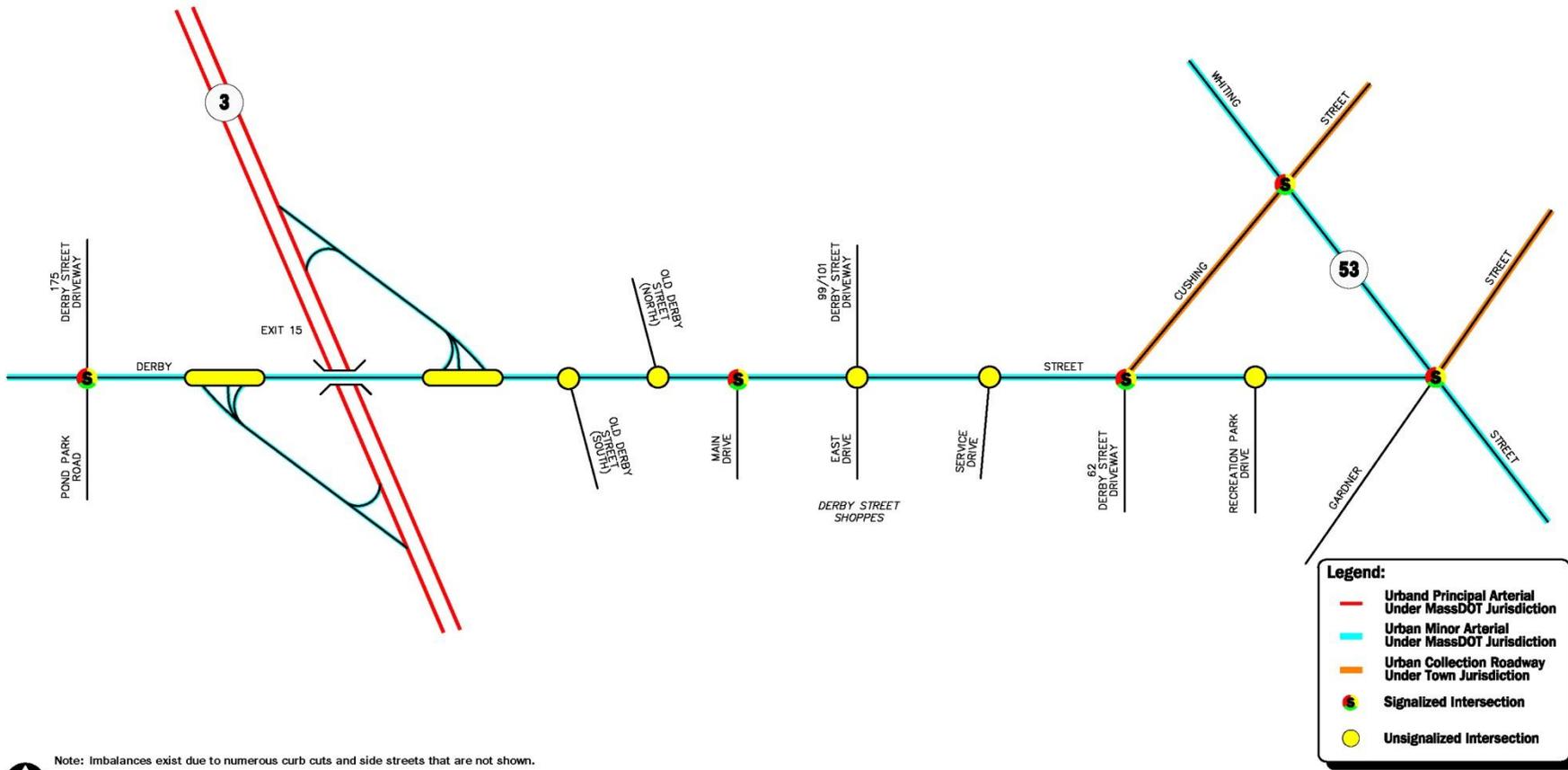


Figure 1  
Study Area Map



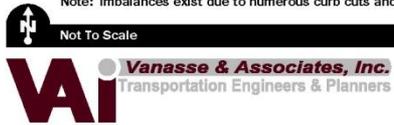
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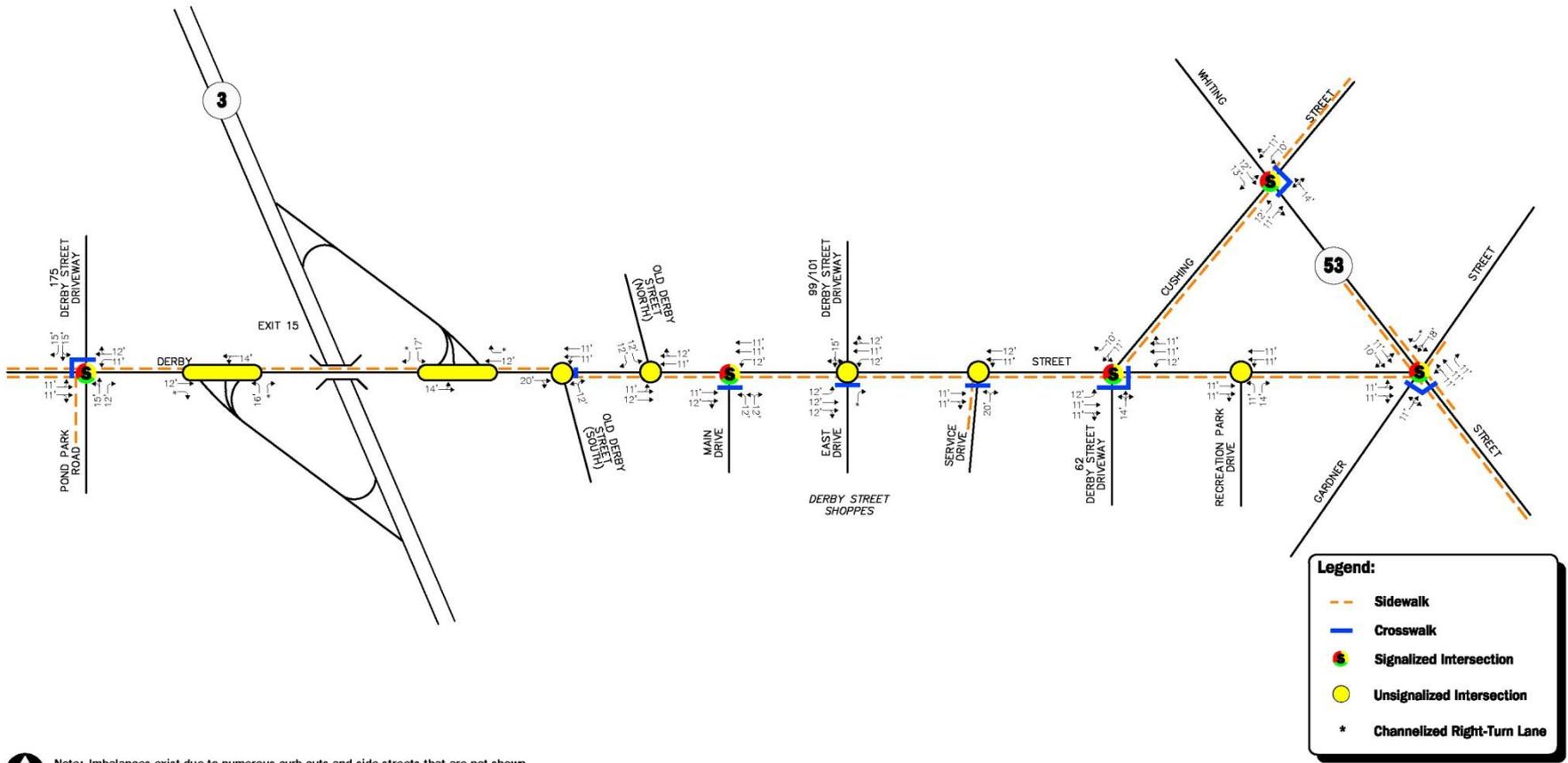
- Urban Principal Arterial Under MassDOT Jurisdiction
- Urban Minor Arterial Under MassDOT Jurisdiction
- Urban Collection Roadway Under Town Jurisdiction
- Signalized Intersection
- Unsignalized Intersection

**Figure 2**  
Roadway Jurisdiction and Functional Classification

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale





**Figure 3**  
Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.  
Not To Scale

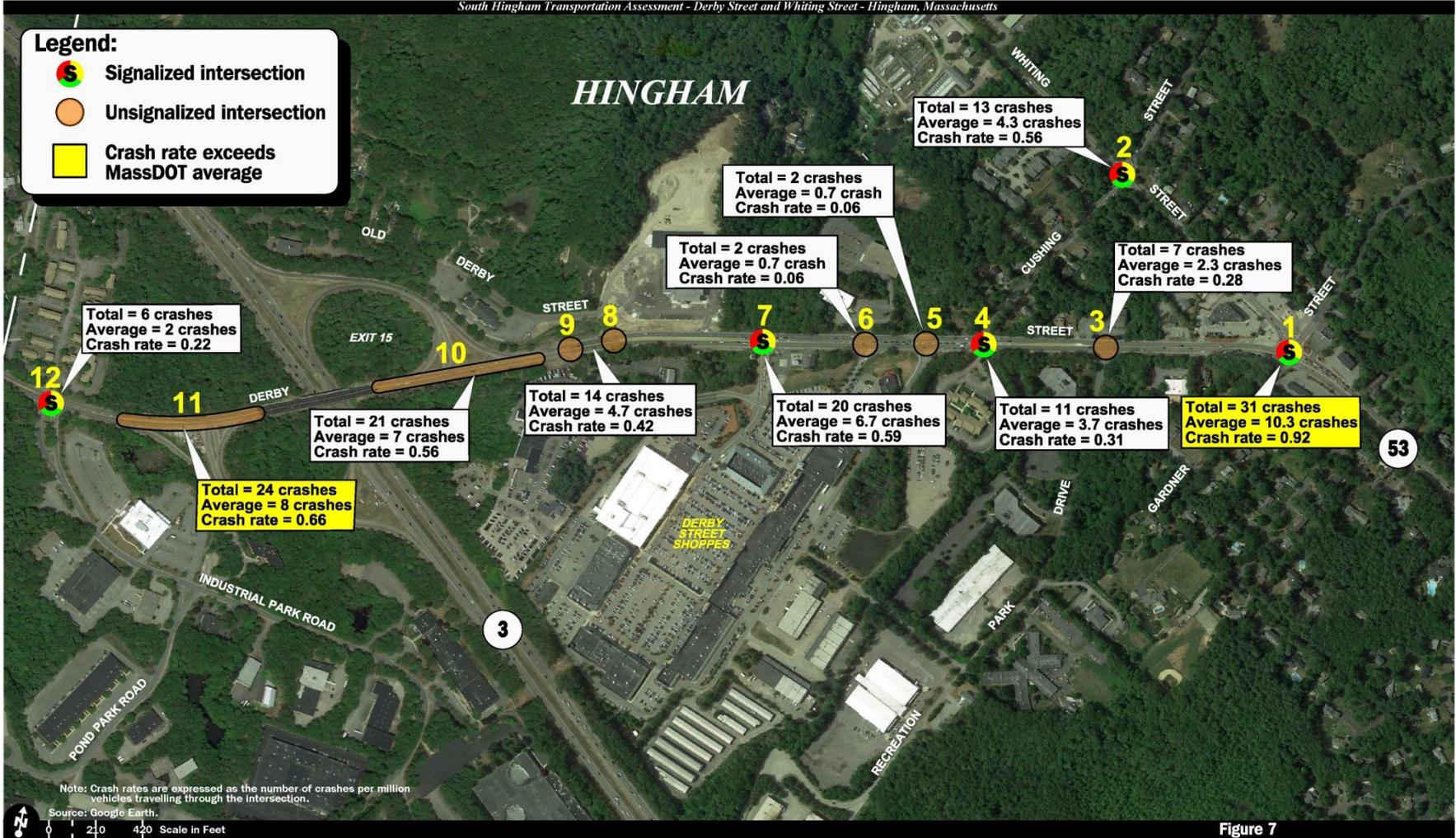


Figure 7  
Motor Vehicle Crash Summary

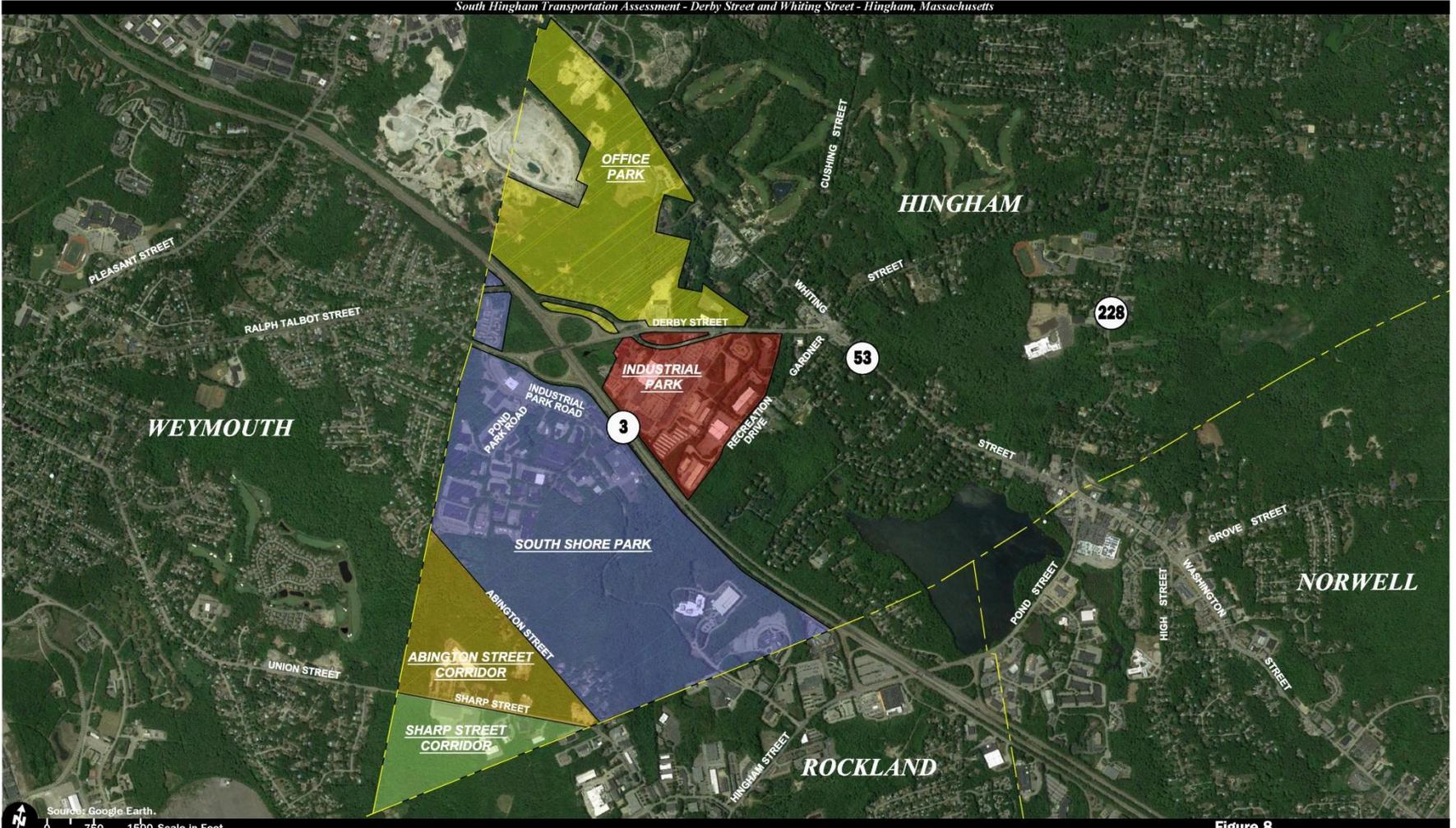


Figure 8  
Development Areas

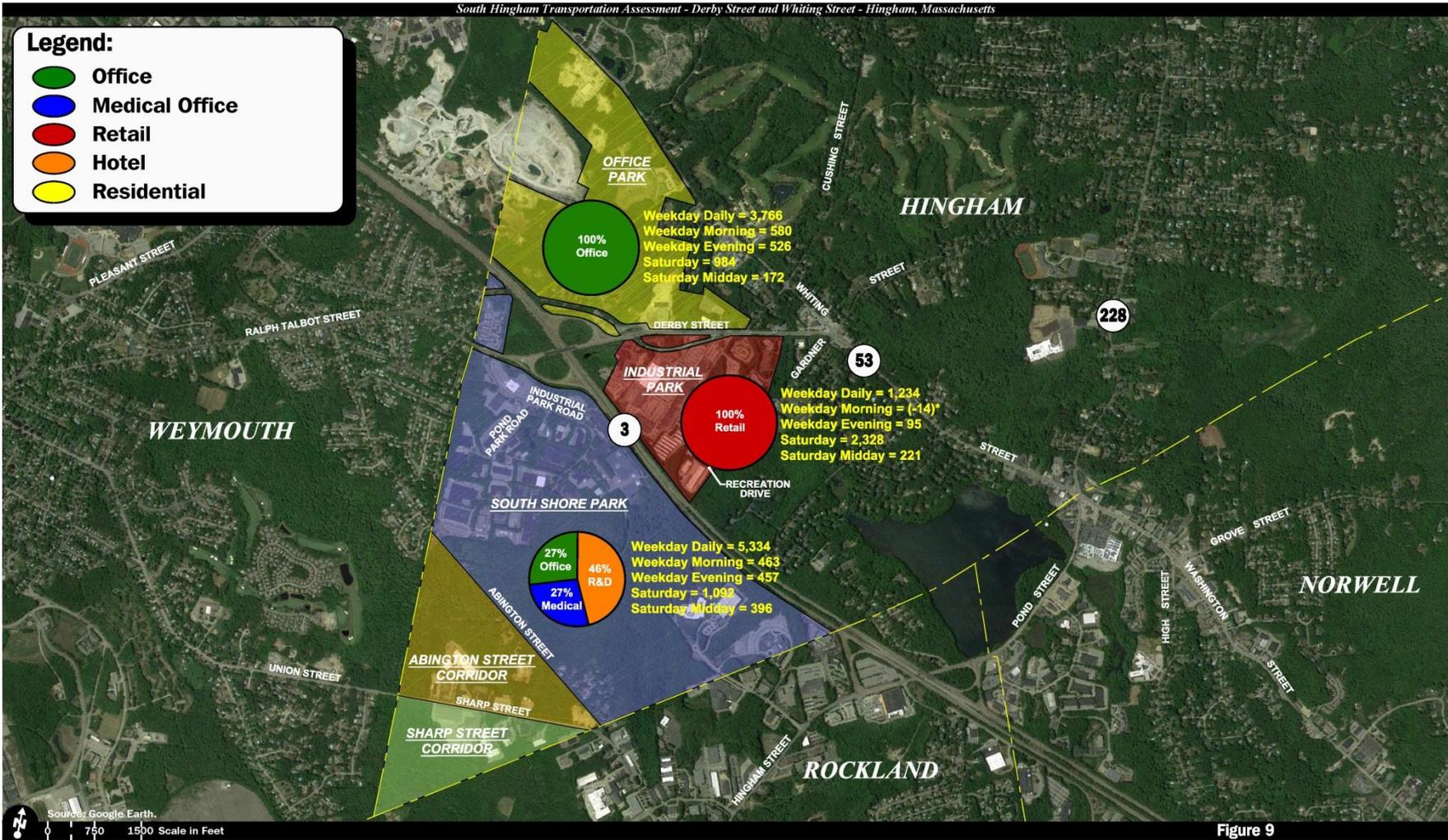
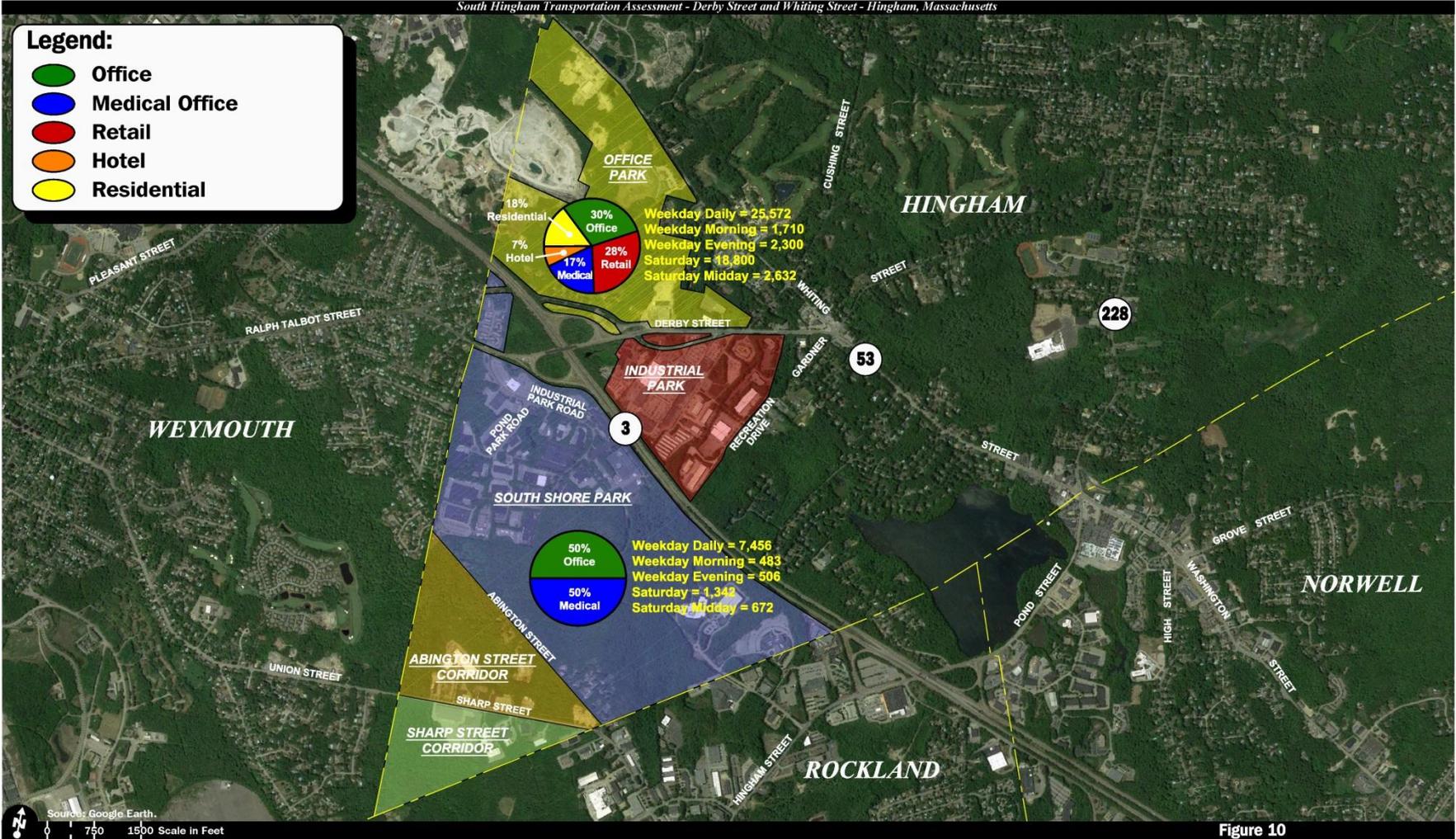


Figure 9  
Build-Out Scenario 1 Summary

**Legend:**

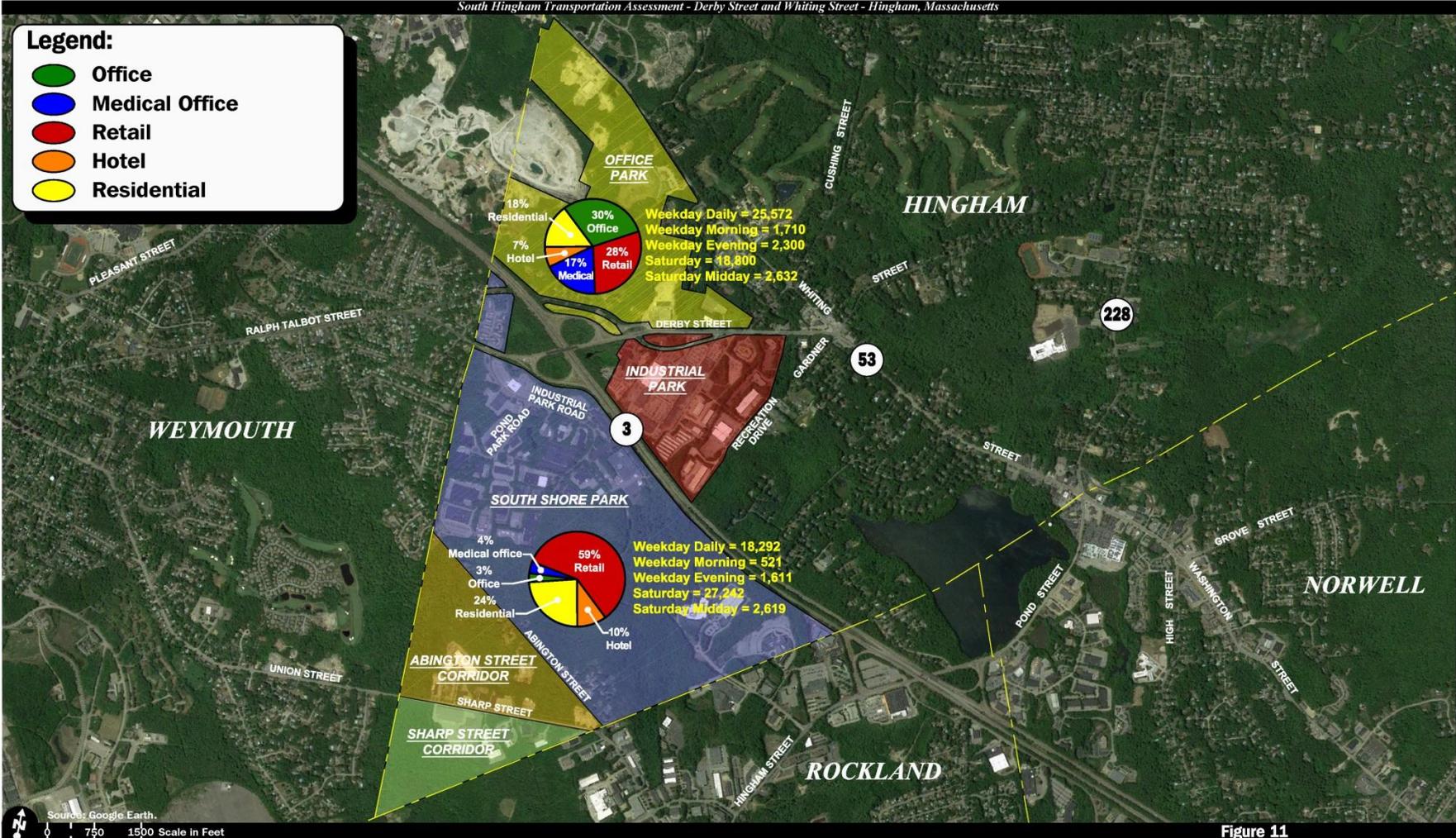
- Office
- Medical Office
- Retail
- Hotel
- Residential



**Figure 10**  
Build-Out Scenario 2 Summary

**Legend:**

- Office
- Medical Office
- Retail
- Hotel
- Residential



**Figure 11**  
Build-Out Scenario 3 Summary

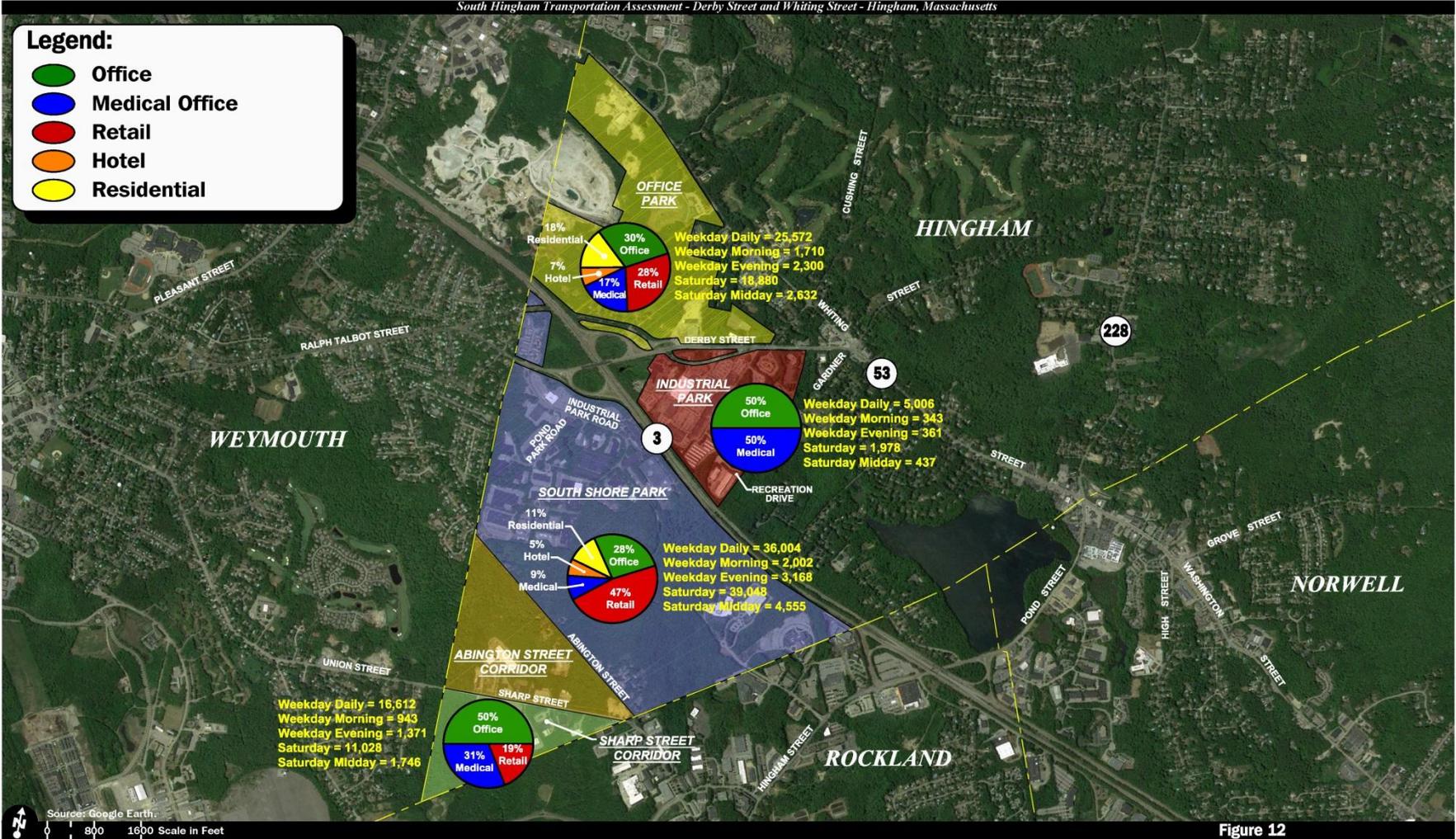
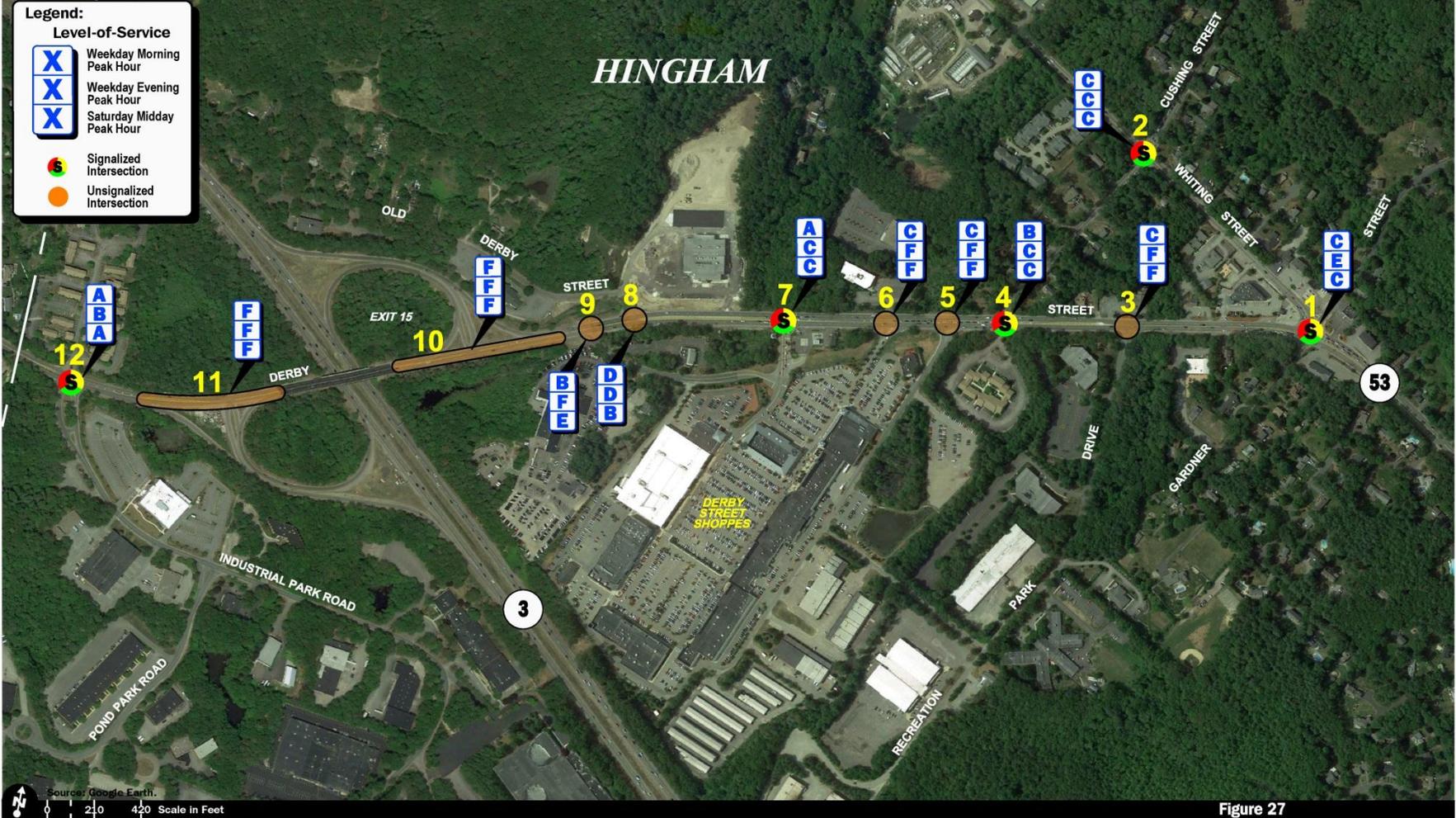


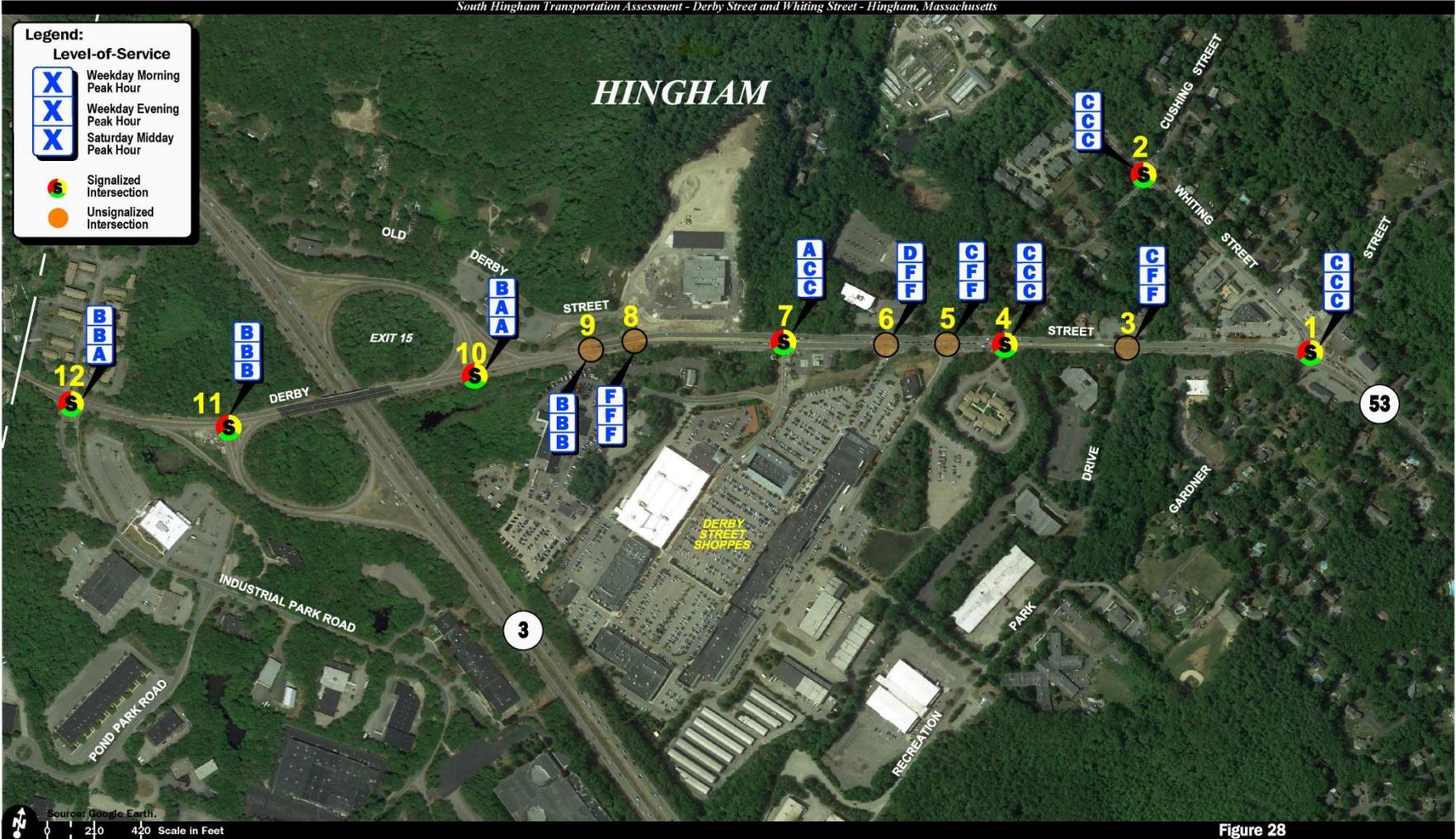
Figure 12  
Build-Out Scenario 4 Summary



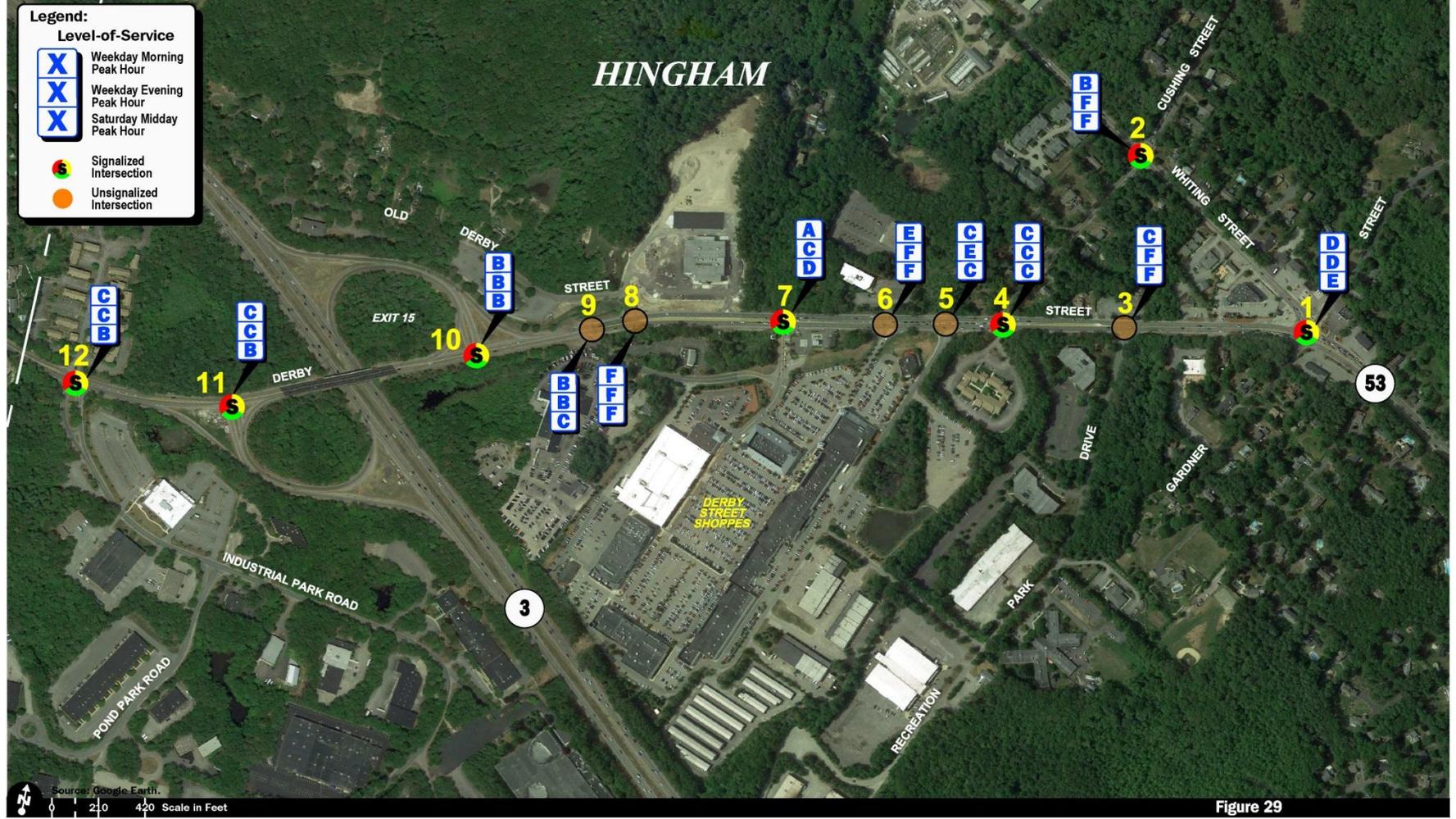




**Figure 27**  
2015 Existing Intersection Level-of-Service Summary

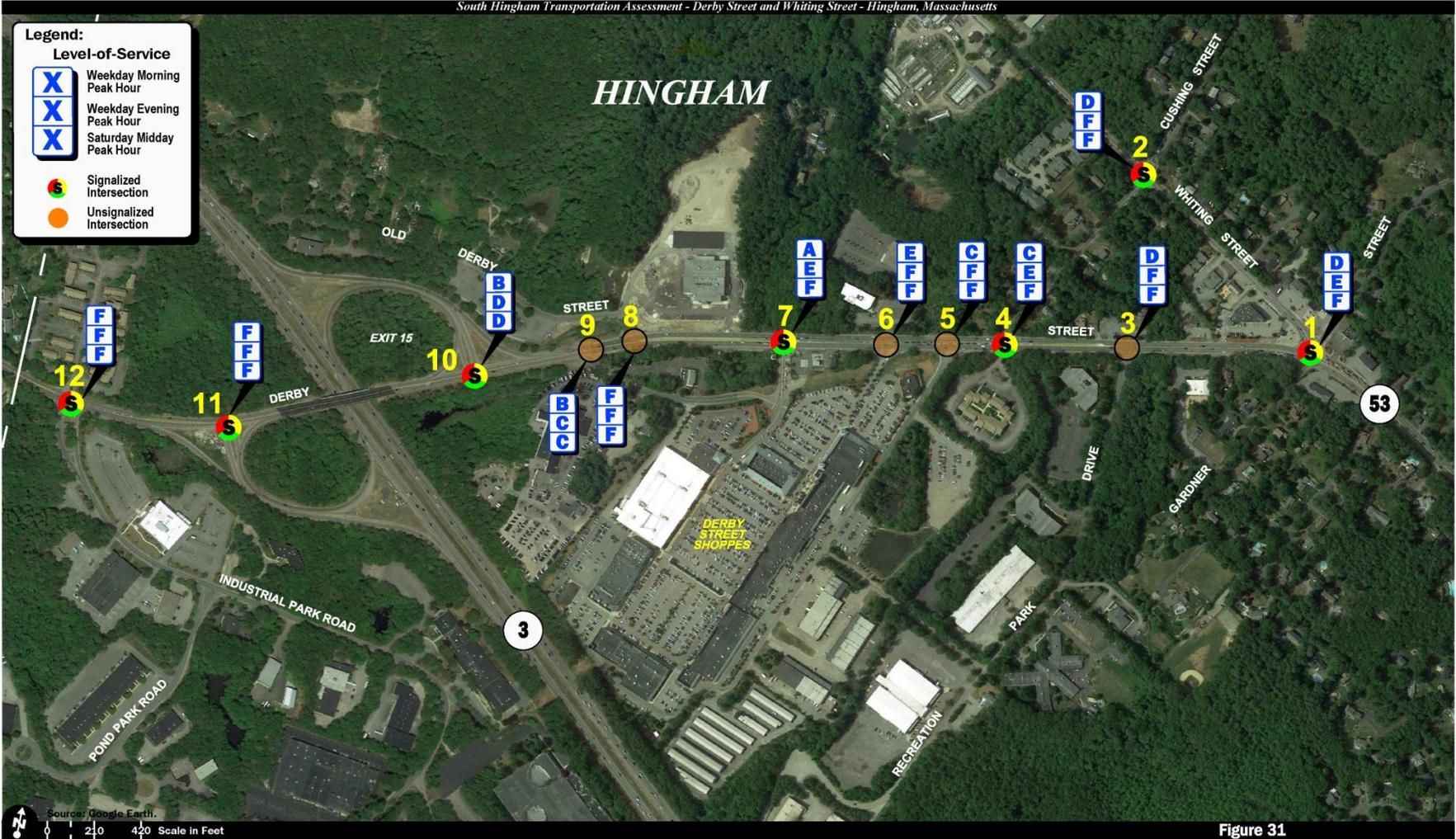


**Figure 28**  
 2015 Build-Out  
 Scenario 1  
 Intersection Level-of-Service  
 Summary

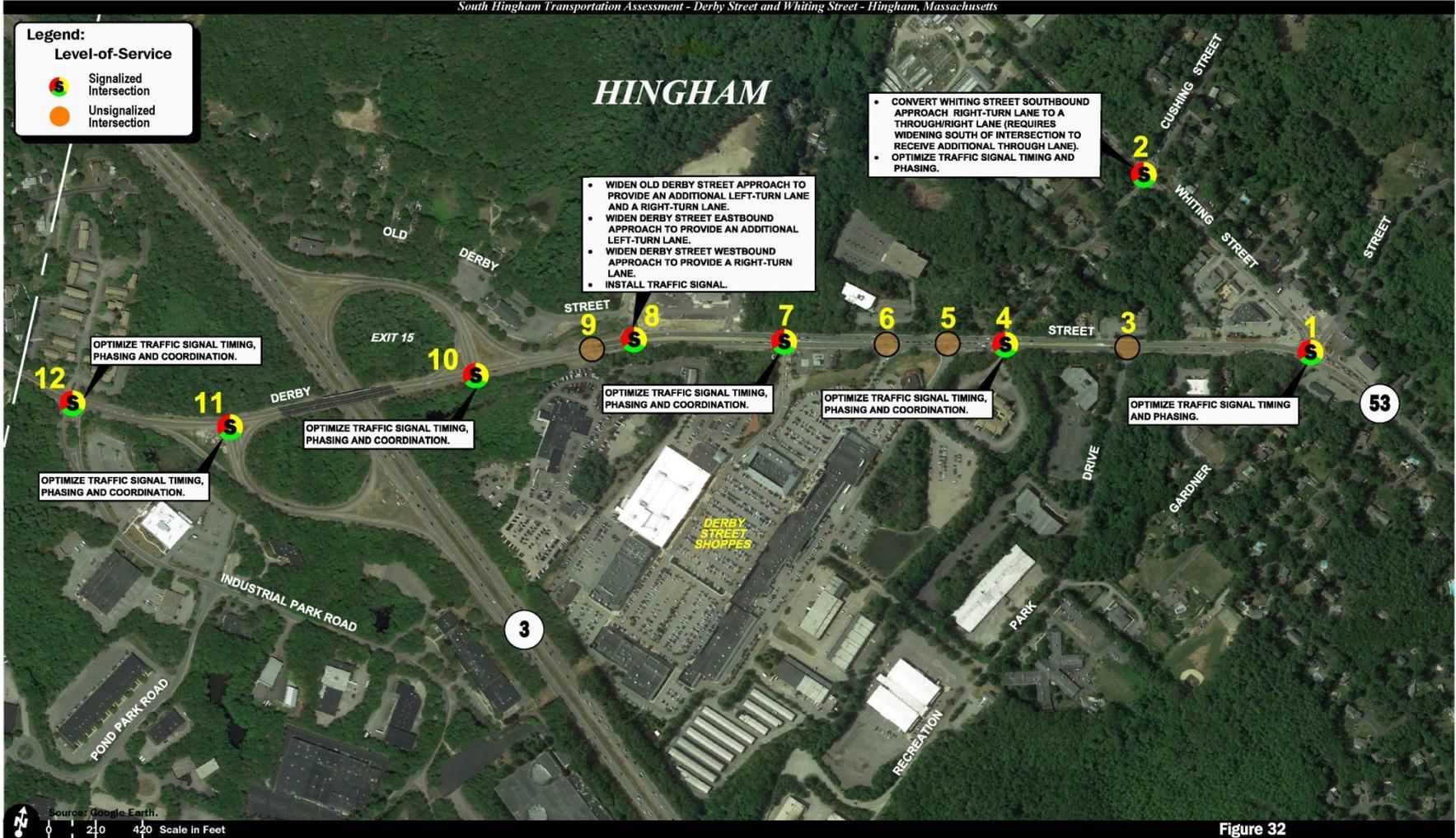


**Figure 29**  
 2015 Build-Out  
 Scenario 2  
 Intersection Level-of-Service  
 Summary



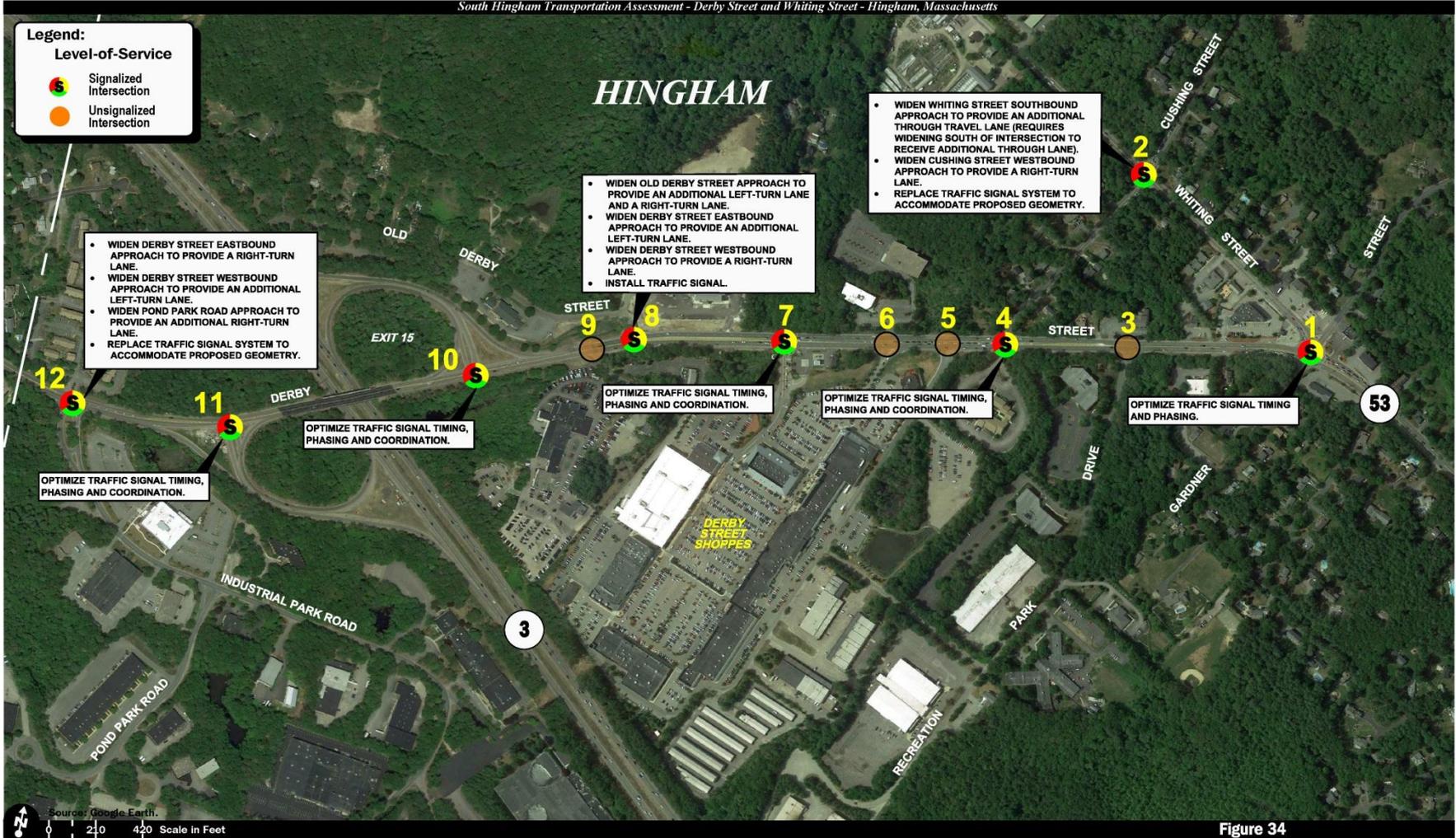


**Figure 31**  
 2015 Build-Out  
 Scenario 4  
 Intersection Level-of-Service  
 Summary



**Figure 32**  
 Build-Out - Scenario 2  
 Recommended Improvement  
 Summary





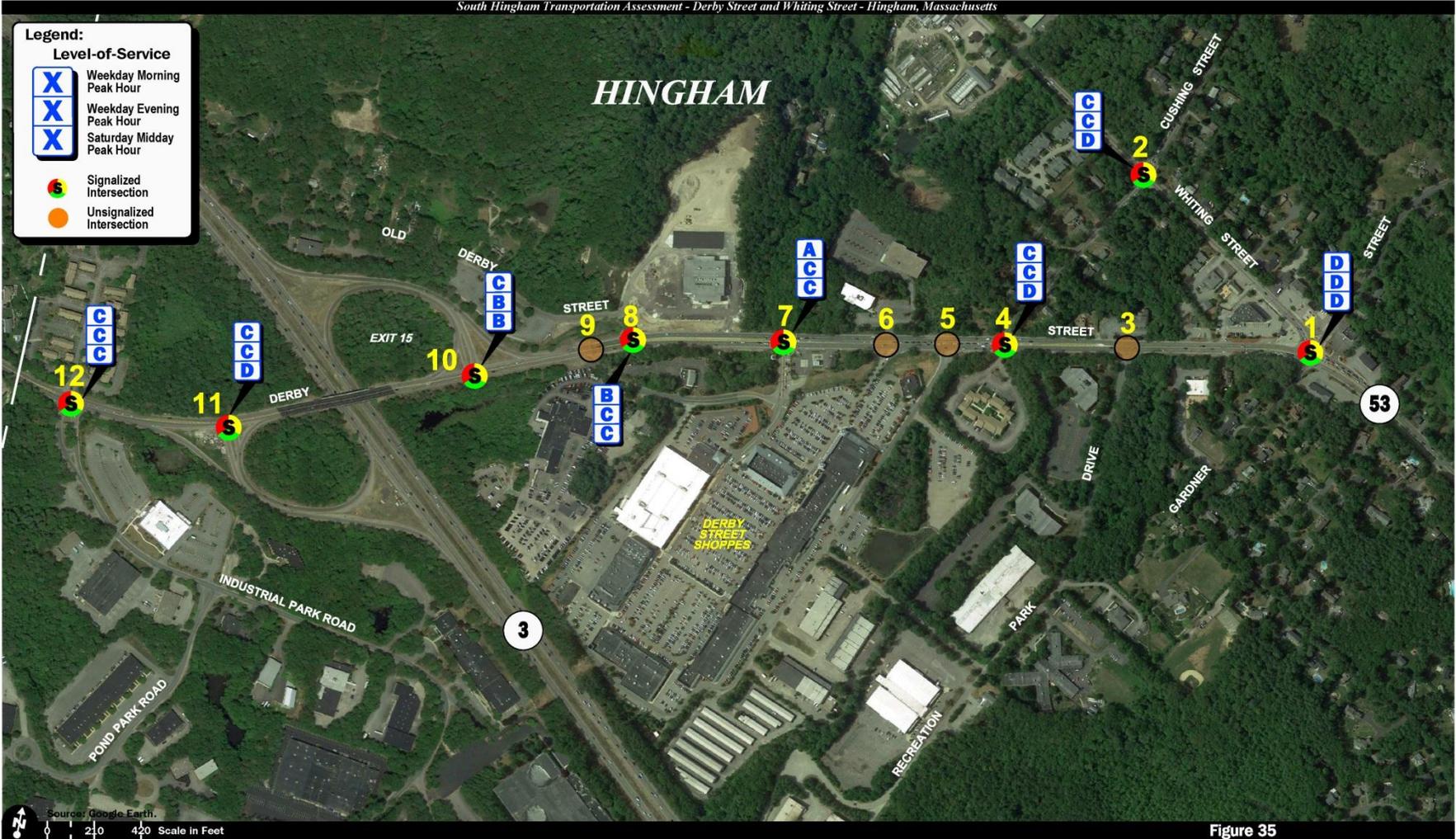
**Figure 34**  
 Build-Out - Scenario 3  
 Recommended Improvement  
 Summary

**Legend:**

**Level-of-Service**

X	Weekday Morning Peak Hour
X	Weekday Evening Peak Hour
X	Saturday Midday Peak Hour

Signalized Intersection  
 Unsignalized Intersection



**Figure 35**  
 2015 Build-Out  
 Scenario 3 with Improvements  
 Intersection Level-of-Service  
 Summary

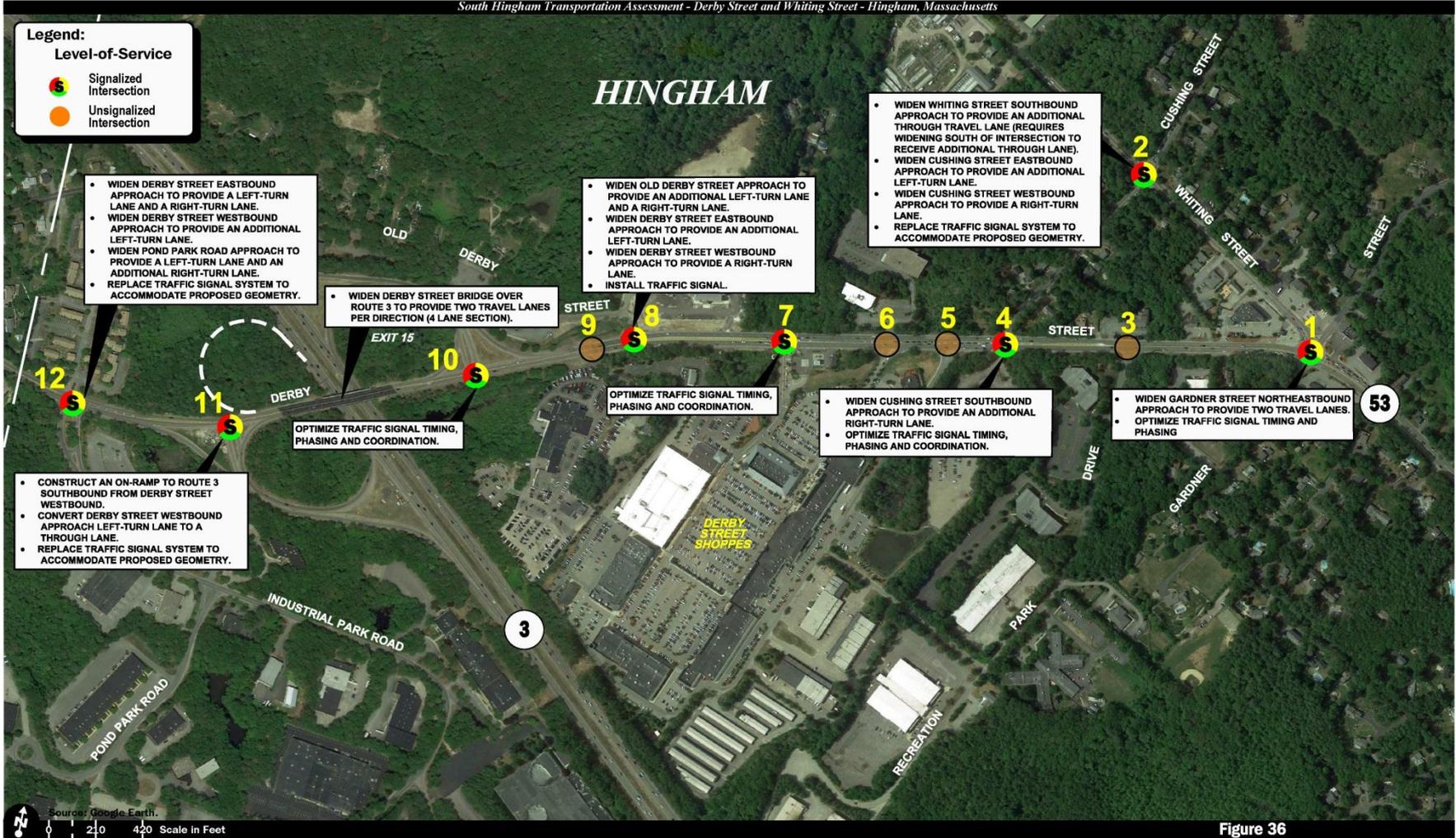
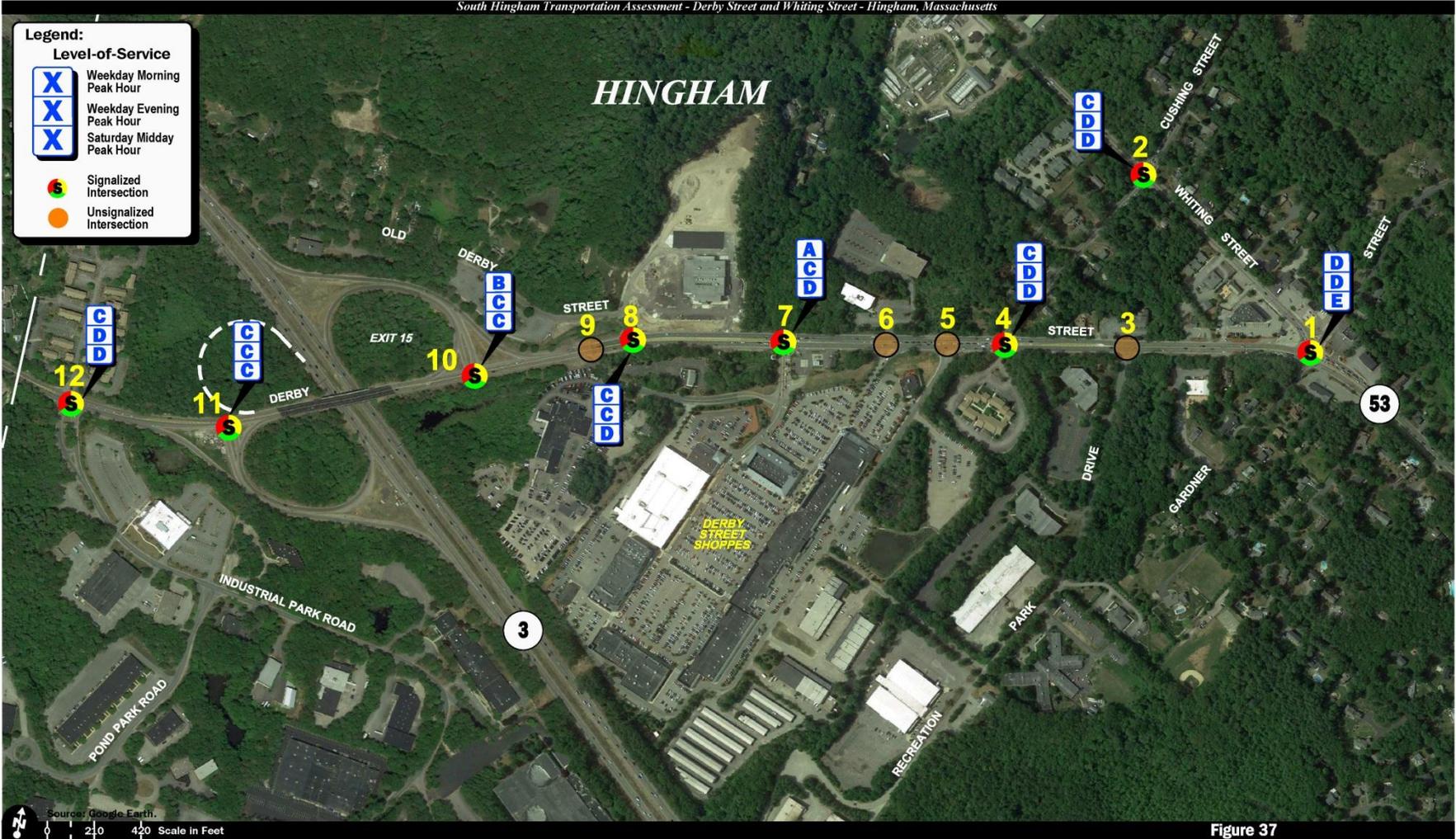


Figure 36

Build-Out - Scenario 4  
 Recommended Improvement  
 Summary



**Figure 37**  
 2015 Build-Out Scenario 4 with Improvements Intersection Level-of-Service Summary

# Cushing Street/Gardner Street Impacts

- As traffic volumes have increased in South Hingham, both Cushing Street and Gardner Street have experienced an increase in traffic as motorists seek alternate travel routes to avoid delays at Queen Anne's Corner and along Main Street and Route 53
- **Existing Conditions:**
  - *Cushing Street*
    - 24 feet in width with a sidewalk along one side
    - Peak-hour volumes: range from 724 vph during the weekday morning peak-hour to 975 vph during the Saturday midday peak-hour
    - Peak directional flow found to be southbound in the morning and northbound in the evening and on a Saturday
    - Traffic operations at Route 53/Cushing Street intersection were found to be generally acceptable, with operating conditions at the Main Street/Cushing Street intersection observed to be constrained

# Cushing Street/Gardner Street Impacts

- Existing Conditions (Continued):
  - *Gardner Street*
    - 24 feet in width with no sidewalks and horizontal and vertical alignment changes that limit sight lines
    - Peak-hour volumes: south of Route 53, between 374 vph and 409 vph; north of Route 53, between 381 vph and 407 vph
    - Peak directional flow found to be toward Route 53 on the segment south of Route 53 and Toward Main Street on the northern segment
    - Traffic operations at Route 53/Gardner Street intersection were found to be generally acceptable, with operating conditions at the Main Street/Gardner Street and Hingham Street/Gardner Street intersections observed to be constrained

# Cushing Street/Gardner Street Impacts

## ➤ Potential Build-Out Impacts:

### ▪ *Cushing Street*

- Potential peak-hour traffic volume impacts range from 40 vehicle trips during the Saturday midday peak-hour under Build-Out Scenario 1 to 379 vehicle trips during the same peak-hour under Build-Out Scenario 4, with percent increases as follows:

- ▣ Scenario 1: 6 percent
- ▣ Scenario 2: 16 percent
- ▣ Scenario 3: 21 percent
- ▣ Scenario 4: 33 percent

# Cushing Street/Gardner Street Impacts

## ➤ Potential Build-Out Impacts:

### ▪ *Gardner Street*

- Potential peak-hour traffic volume impacts range from 9 vehicle trips during the Saturday midday peak-hour under Build-Out Scenario 1 to 166 vehicle trips during the same peak-hour under Build-Out Scenario 4, with percent increases as follows:
  - ▣ Scenario 1: 5 percent
  - ▣ Scenario 2: 34 percent
  - ▣ Scenario 3: 27 percent
  - ▣ Scenario 4: 33 percent
  
- Potential peak-hour traffic volume impacts range from 40 vehicle trips during the Saturday midday peak-hour under Build-Out Scenario 1 to 379 vehicle trips during the same peak-hour under Build-Out Scenario 4, with percent increases as follows:
  - ▣ Scenario 1: 13 percent
  - ▣ Scenario 2: 37 percent
  - ▣ Scenario 3: 51 percent
  - ▣ Scenario 4: 79 percent

# Cushing Street/Gardner Street Impacts

- **Potential Build-Out Impacts (Continued):**
  - Peak-hour traffic volume increases of in excess of 100 net new vehicle trips or an increase in baseline traffic volumes of 10 percent or more have been generally defined as having the potential to result in a material impact on motorist delays and vehicle queuing at intersecting driveways and side streets
  - Only Build-Out Scenario 1 would result in potential traffic volume increases that would fall below these thresholds, indicating that Build-Out Scenarios 2, 3 and 4 would result in traffic volume increases that may necessitate specific improvements or actions to limit potential traffic volume increases on Gardner Street and Cushing Street, particularly any potential increase in through-trucking activities
  - “Cut-through” traffic often travels at higher rates of speed than local traffic (which has a destination on the roadway which may not be conducive to the current roadway geometry that is afforded by Cushing Street and Gardner Street, particularly given the absence of sidewalks along Gardner Street

# Cushing Street/Gardner Street Impacts

## ➤ Traffic Management Strategies:

- *Traffic Calming* - Speed humps (elongated speed bumps), raised intersections, median installation (to reduce roadway width), textured pavement, pavement markings and other such features that are designed to reduce travel speeds and increase travel times
- *Turn Restrictions* - Consider implementing peak period restrictions at the Hingham Street/Gardner Street intersection and at select intersections that provide access to/from Whiting Street
- *Truck Restrictions* - Conduct a *Heavy Commercial Vehicle Exclusion Study* for Gardner Street north and south of Whiting Street and Cushing Street north of Whiting Street
- *Education and Enforcement* - Install radar speed signs at select locations along Gardner Street and Cushing Street to provide motorist feedback as to their travel speed in relation to the posted speed limit and to allow for targeted enforcement by police.