

Table ES-3 Summary of Environmental Impacts (continued)

| Resource Area | JEH RFDS | | Greenbelt | | Landover | | Springfield | |
|-----------------------|----------|--|-----------|--|----------|---|-------------|--|
| Telecommunications | N | Under the No-action Alternative, there would be no measurable impacts. | ADV | Under the No-action Alternative, there would be indirect, short-term, adverse impacts. | N | Under the No-action Alternative, there would be no measurable impacts. | N | Under the No-action Alternative, there would be no measurable impacts. |
| | N | Under RFDS 1, there would be no measurable impacts. | ADV | Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts. | ADV | Under the Landover Alternative, there would be direct, short-term, adverse impacts. | N | Under the Springfield Alternative, there would be no measurable impacts. |
| | N | Under RFDS 2, there would be no measurable impacts. | | | | | | |
| Stormwater Management | N | Under the No-action Alternative, there would be no measurable impacts. | BEN | Under the No-action Alternative, there would be indirect, long-term, beneficial impacts. | N | Under the No-action Alternative, there would be no measurable impacts. | N | Under the No-action Alternative, there would be no measurable impacts. |
| | N | Under RFDS 1, there would be no measurable impacts. | BEN | Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts. | BEN | Under the Landover Alternative, there would be direct, long-term, beneficial impacts. | BEN | Under the Springfield Alternative, there would be direct, long-term, beneficial impacts. |
| | BEN | Under RFDS 2, there would be indirect, long-term, beneficial impacts. | | | | | | |

| | | | | | | | |
|---|--|-----|----------------|------------|------------------------------------|-----|-------------------|
| N | No Measurable Impact or Insufficient Information | ADV | Adverse Impact | MAJ ADV | Major Adverse (Significant) Impact | BEN | Beneficial Impact |
|---|--|-----|----------------|------------|------------------------------------|-----|-------------------|

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Environmental Consequences and Mitigation Measures

According to 40 CFR 1500.2(f), Federal agencies are required, to the fullest extent possible, to “[u]se all practicable means consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions on the quality of the human environment”. According to 40 CFR 1508.20, mitigation entails the sequential steps of avoiding, minimizing, repair or restoring, reducing over time, and compensating for impacts to the natural and human environment. Table ES-4 outlines mitigation measures that GSA could implement in accordance with 40 CFR 1502.14 to mitigate both major adverse and adverse impacts of the Proposed Action. The following section outlines the relevant Federal, state, and local regulations that would avoid or prevent adverse impacts.

Regulatory Framework

The consolidation of FBI HQ and exchange of the JEH parcel would occur in accordance with the following regulations and statutes, which would avoid, but not necessarily eliminate, adverse impacts and the need for mitigation.

Federal and Regional

- Section 404 of the Clean Water Act (CWA) (33 CFR, Parts 320–330)
- National Pollutant Discharge Elimination System (NPDES) General Construction Permit
- Section 438 of the Energy Independence and Security Act (EISA) of 2007
- Section 307 of the Coastal Zone Management Act (CZMA) (16 U.S.C. §1451 et seq.)
- Chesapeake Bay Total Maximum Daily Load (TMDL)
- Endangered Species Act of 1973 (16 U.S.C. §1531 et seq.)
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)
- Section 5 of the National Capital Planning Act of 1952 (40 U.S.C. §§8701 et seq.)
- National Energy Conservation Policy Act of 1978 (24 U.S.C §8251 – 8262k et seq.)
- Section 106 of the National Historic Preservation Act of 1966 (NHPA)
- Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S.C. 470aa-mm)
- Archaeological and Historic Preservation Act (AHPA) of 1974 (16 U.S.C. 469-469c-2)
- 32 CFR Part 229 – Protection of Archaeological Resources: Uniform Regulations
- 36 CFR Part 800 – Protection of Historic Properties
- Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation, (48 CFR 44716)
- National Energy Conservation Policy Act of 1978 (24 U.S.C §8251 – 8262k et seq.)
- Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. §6901 et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980
- 40 CFR Parts 300–399 – Hazardous Substance Regulations
- Occupational Safety and Health Administration (OSHA) regulations (29 CFR Parts 1900–1999)
- Clean Air Act (CAA) of 1972 as amended (42 U.S.C. §7401 et seq.)
- 2014 CEQ Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts
- Noise Control Act of 1972

State

Maryland (Landover and Greenbelt Alternatives)

- Stormwater Management Act of 2007 and state regulations for stormwater management under Code of Maryland Regulations (COMAR)26.17.02
- COMAR 26.23 and 26.24, Non-tidal and tidal wetlands and the Non-tidal Wetlands Protection Act
- COMAR 26.08.02, Water Quality
- Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01) and Code of Maryland Regulations 08.03.08 which contain the official State Threatened and Endangered Species list.

Virginia (Springfield Alternative)

- Fairfax County Erosion and Sedimentation Control Law (Chapter 104), pursuant to statewide statute (Code of Virginia 62.1, Chapter 3.1, Article 2.4)
- Fairfax County Chesapeake Bay Preservation Ordinance (Chapter 118), pursuant to the statewide statute (§ 62.1-44.15:67 et seq.)
- Fairfax County Stormwater Management Ordinance (Chapter 124) pursuant to the statewide statute (§ 62.1-44.15:24 et seq.)
- Article 4 of the Fairfax County Stormwater Management Ordinance (Section 124–4)
- Fairfax County Phase I MS4 NPDES permit,
- Virginia Stormwater Management Program permit

Washington, D.C. (JEH Parcel)

- Washington, D.C., Water Quality Standards for Surface Water (Title 21 of the District of Columbia Municipal Regulations [DCR], Chapter 11)
- 21 DCR §§1150–1158.
- Proposed D-7 Zoning
- Pennsylvania Avenue Plan (PAP)
- Heights of Buildings Act 36 Stat. 452. as amended

Other

- Leadership in Energy & Environmental Design (LEED) Gold Rating
- EO 13693, *Planning for Federal Sustainability in the Next Decade*
- EO 11990, *Protection of Wetlands*
- EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*
- GSA Public Buildings Service (PBS) *Wetland Impact Management Desk Guide and Action Decision Memorandum 1095.5, Consideration of Wetlands in Decisionmaking*
- GSA's *Floodplain Management Desk Guide and Action Decision Memorandum 1095.6, Consideration of Floodplains in Decisionmaking*
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- EO 13045, *Protection of Children from Environmental Health and Safety Risk*

Table ES-4: FBI HQ Consolidation Mitigation Overview

| Resource Area | | Greenbelt Alternative | Landover Alternative | Springfield Alternative |
|--------------------|--------------------|---|--|--|
| Natural Resources | | Implement BMPs and LIDs in consultation with the exchange partner. Adhere to Federal, state and local permitting requirements. | | |
| Cultural Resources | | Execute a Programmatic Agreement (PA) developed through the Section 106 consultation process | | |
| Transportation | Parking | Mitigations would be addressed through development and implementation of a Transportation Management Plan (TMP), which would include preferred strategies for discouraging employees from parking on local streets. | | |
| | Pedestrian Network | No mitigation necessary | Build sidewalks on the proposed Everts Street Bridge. Sidewalks along Everts Street between Brightseat Road and the Everts Street Bridge would be updated to full ADA compliance and recommended widths to promote pedestrian connectivity through this corridor. With the reconstruction of the intersection of Brightseat Road and Landover Road, crosswalks would be upgraded to full ADA accessibility, and adequate crosswalks and signal time for pedestrians would be provided. | Develop a direct pedestrian connection between the Site East Access and the Joe Alexander Transportation Center. This may include using the planned complete street network along Metropolitan Center Drive Extension and Frontier Drive Extension or cutting the angle to form a direct path from Metropolitan Center Drive to the station and crossing Frontier Drive Extension between the Metro Station Access Road and Metropolitan Center Drive. |
| | Bicycle | No mitigation necessary | Implement bicycle lane improvements directly adjacent to the site, along Everts Street, Brightseat Road, and Landover Road. While not directly adjacent to the site, an extension of the Everts Street bicycle lanes west of Brightseat Road and an extension of the Cattail Branch River Trail north to Everts Street would complete the bicycle network in the area. It is recommended that the construction of the recommend multi-use paths be coordinated with the construction of the roadway improvements, to avoid adverse impacts to the multi-use paths. | Rehabilitate the mixed-use path and create a short bicycle connection long a portion of Joe Alexander Road and the GSA-owned railroad right-of-way that is currently not in use. These bicycle improvements would mitigate the increase in bicyclists expected under the Springfield Alternative and provide multi-modal connectivity north of the site including a direct connection to the Franconia-Springfield Parkway Trail. |
| | Public Transit | No mitigation necessary | Provide shuttle bus services between Largo Town Center and the Landover site. | Provide shuttle bus service between Franconia-Springfield Metro Station and the Springfield site to encourage a higher percentage of employees to use transit to the Springfield site. The shuttle route would likely use the Franconia-Springfield Metro Station Access Road, the Frontier Drive Extension, Metropolitan Center Drive Extension, and Franconia-Springfield Parkway service roads and ramps. |

Mitigation Measures

Where conformity with existing regulations, statutes, Executive Orders, and GSA agency guidance would not avoid adverse impacts, mitigation measures are considered for each alternative. The implementation of mitigation measures suggested in this EIS are contingent upon applicability to final design and information received during the exchange partner procurement process. Therefore, GSA will commit to adopting some, but not necessarily all, of the mitigation measures described in this EIS in the Record of Decision (ROD).

Table ES-4 shows the recommended mitigation measures for each action alternative with the exception of traffic mitigation measures, which are described in detail for each site following table ES-4. There are no mitigation measures recommended for land use, planing studies, and zoning, visual resources, socioeconomics, public health and safety, parking, truck access, and greenhouse gas emissions.

Table ES-4:FBI HQ Consolidation Mitigation Overview (continued)

| Resource Area | Greenbelt Alternative | Landover Alternative | Springfield Alternative |
|------------------------------|--|----------------------|-------------------------|
| Air Quality | <p>Mitigation measures for the long-term operation of the site would be developed and implemented in consultation with the exchange partner.</p> <p>Adverse impacts to air quality during construction would be mitigated by utilizing newer equipment meeting EPA Tier 2 or better emission standards. At least 50 percent of construction equipment over 100 HP shall meet EPA Tier 3 or better emission standards or incorporate EPA-approved diesel retrofit technology. Tier 3 NO_x emissions range from 40 to 60 percent lower than Tier 1 emissions and considerably lower than uncontrolled engines. Fugitive dust control plans would be required as part of contract specifications. For example, stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction site. Tracking pads would be established at construction exits to prevent dirt from being tracked onto roadways. Any truck routes within the sites would be either watered as needed or, in cases where such routes would remain in the same place for an extended duration, the routes would be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust. During dry weather, exposed soil areas (unpaved access roads, soil piles, staging areas etc.) would be watered once per day to control fugitive dust. All trucks hauling loose material would have their loads securely covered prior to leaving the construction sites. To minimize fugitive dust emissions, vehicles on-site would be limited to a speed of 10 mph. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 3 minutes. Clear signage indicating idling limits shall be provided for construction workers at all access points.</p> | | |
| Noise | Adhere to noise control regulations. | | |
| Infrastructure and Utilities | The design and construction of utility system improvements would follow applicable local and state regulations and permitting procedures as well as approval processes determined by each utility purveyor. | | |

Traffic

Each of the three action alternatives would result in major adverse, or significant impacts to the traffic network. Recommended traffic mitigation measures were developed to address the significant traffic impacts caused by the addition of the Consolidated FBI HQ at each site. These included traffic signal optimization, road widening, lane geometry improvements at intersections, installation of new traffic signals, lane striping adjustments. If implemented, the recommended traffic mitigation measures would maintain acceptable traffic flow conditions based on the Site Transportation Agreements found in Appendix A. Traffic impacts resulting from the redevelopment of the JEH parcel would be adverse, but not significant, and would be mitigated by the DDOT traffic signal optimization initiative.

Greenbelt Alternative

Table ES-5 contains the list of recommended mitigation measures, while figure ES-11 shows their locations. The overall intersection LOS grades for the Build with Mitigation Condition are depicted in figure ES-12 for the AM and PM peak hours.

Table ES-5: Greenbelt Recommended Traffic Mitigation Measures

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|---|--|---|
| A | Edmonston Road (MD 201) and Powder Mill Road | <ul style="list-style-type: none"> For the Edmonston Road northbound approach, create a new 400-foot left-turn lane and lengthen the right turn-lane by 50 feet resulting in a 325-foot right-turn lane, resulting in two left-turn lanes, one through lane, and one right-turn lane. Extend the existing northbound left-turn lane back to the previous intersection at Sunnyside Avenue resulting in widening the northbound direction by one lane. Add a second departing lane totaling approximately 700 feet along westbound Powder Mill Road resulting in two westbound travel lanes for 700 feet. Optimize the traffic signal for AM and PM peak periods. | 3,100 |
| B | Edmonston Road (MD 201) and Sunnyside Avenue | <ul style="list-style-type: none"> For the Edmonston Road northbound approach, create a new through lane extending back 450 feet to match the left-turn lane distance resulting in one left-turn lane and two through lanes. For the Edmonston Road southbound approach, create a new through lane extending back 600 feet resulting in two through lanes and one right-turn lane. Add a second departing lane totaling approximately 1,500 feet along southbound Edmonston Road resulting in two southbound travel lanes for 1,500 feet. Optimize the traffic signal for AM and PM peak periods. | 2,550 |
| C | Greenbelt Road (MD 193) and Cherrywood Lane/60th Avenue | <ul style="list-style-type: none"> For the 60th Avenue northbound approach, create a new 120-foot lane resulting in one left-turn lane and one shared through/right turn lane. Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| D | Greenbelt Road (MD 193) and Greenbelt Station Parkway | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for the AM peak hour. | None |
| E | Greenbelt Station Parkway and WMATA Garage | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| F | Greenbelt Station Parkway and I-95/I-495 off-ramp/ Site South Access | <ul style="list-style-type: none"> For the Greenbelt Metro Station Kiss & Ride approach, revise the planned roadway improvement design to include a second lane totaling 200 feet (50 feet more if space exists). Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| G | Greenbelt Station Parkway and North Core Mixed Use/ Site Northwest Access | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| H | Greenbelt Station Parkway and Greenbelt Metro Drive | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| I | Greenbelt Metro Drive and Site North Access | <ul style="list-style-type: none"> Install a traffic signal. Add a second departing lane approximately 500 feet along westbound Greenbelt Metro Drive connecting into the left-turn lane at the next intersection. Optimize the traffic signal for AM and PM peak periods. | None |
| J | I-95/I-495 Off-ramp from the Interstate to Greenbelt Station Parkway | <ul style="list-style-type: none"> Revise the planned roadway improvement design to stripe the exit ramp for the right lane to lead directly into the WMATA Garage, the center lane to lead to the right lane at the Greenbelt Station Parkway intersection, and the left lane to service the Kiss & Ride and center and left lanes at the Greenbelt Station Parkway intersection. | None |

Figure ES-11: Greenbelt Build with Mitigation Condition Traffic Mitigation Locations

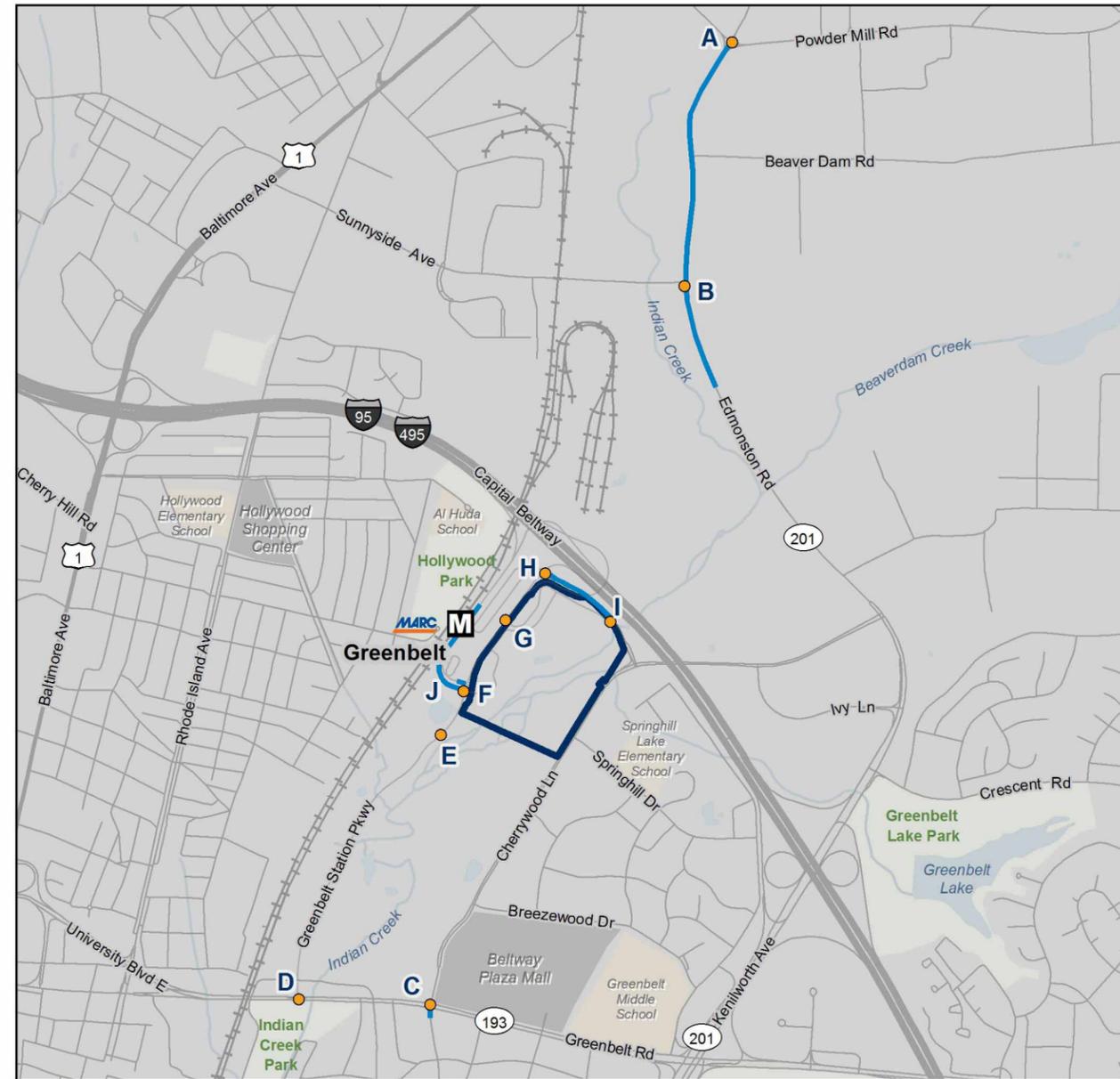
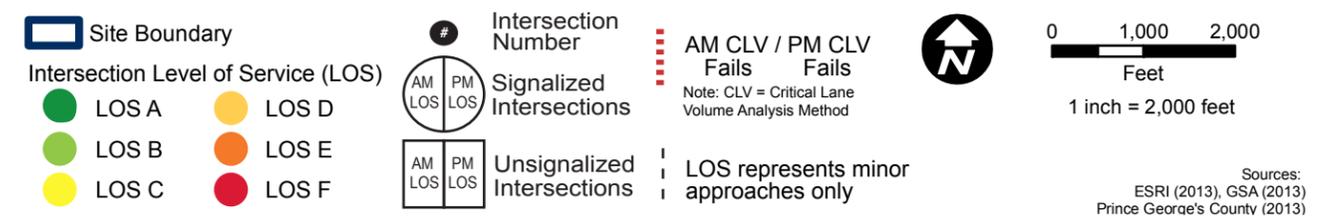
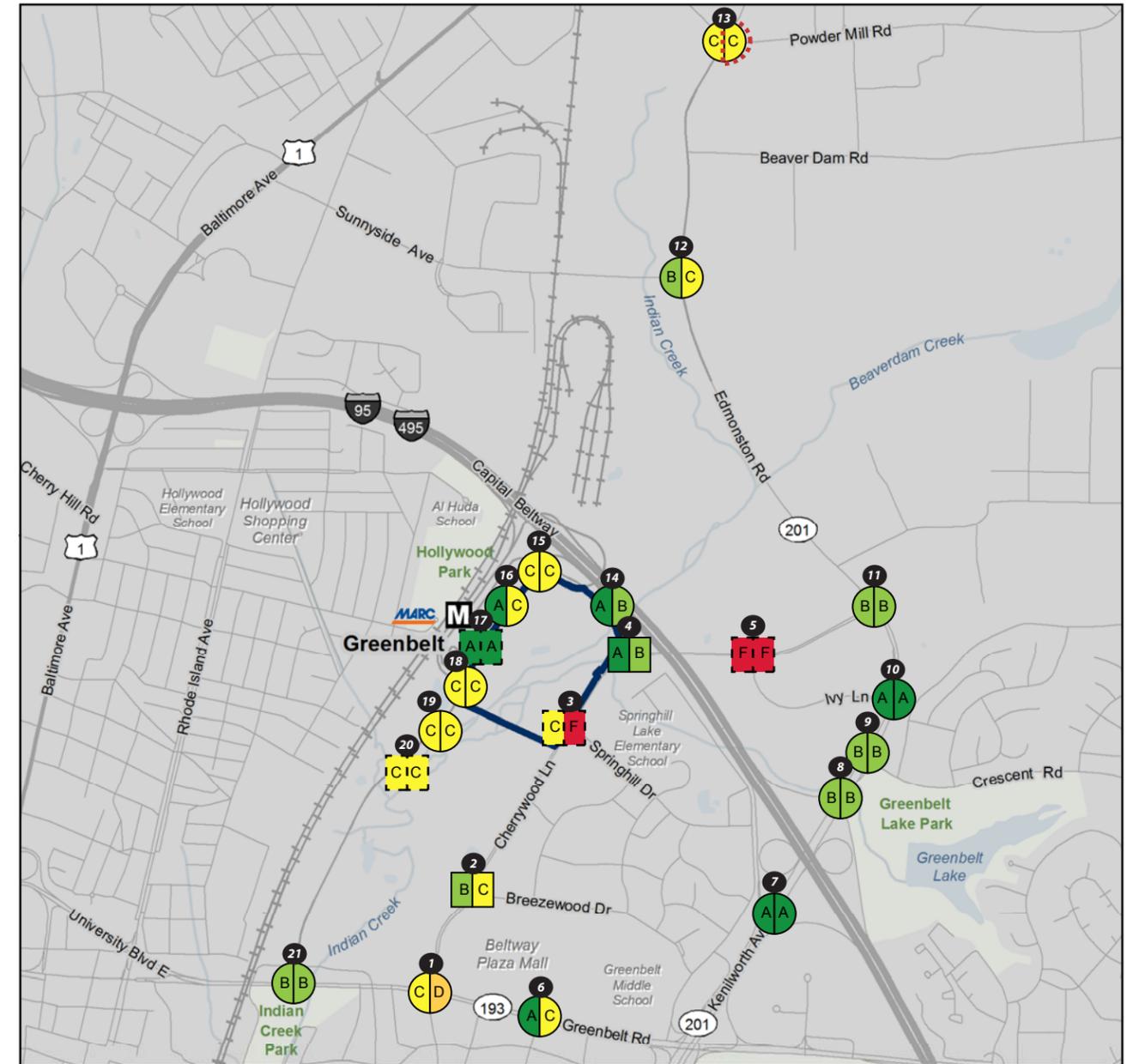


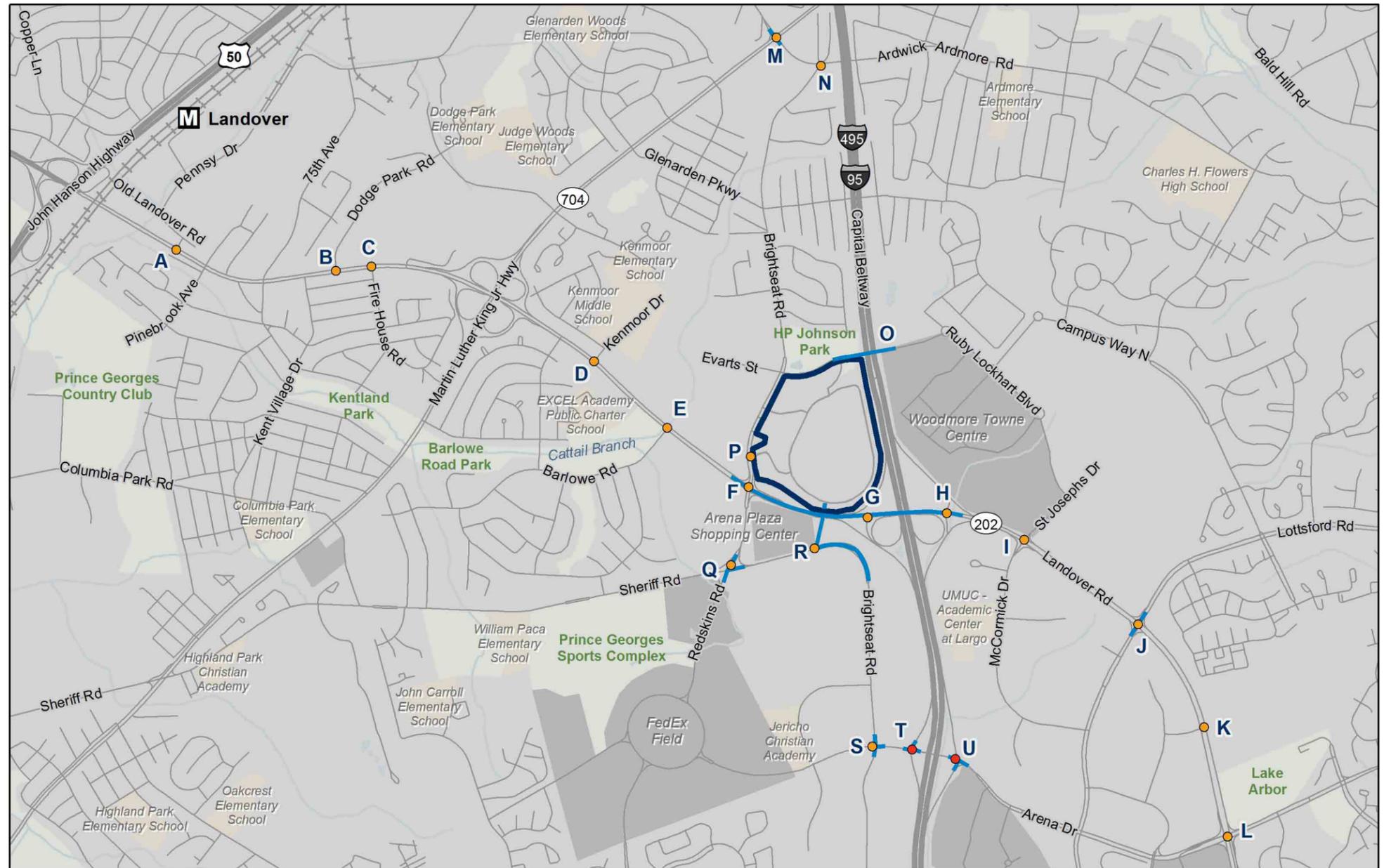
Figure ES-12: Greenbelt Build with Mitigation Condition Intersection LOS for AM and PM Peak Hours



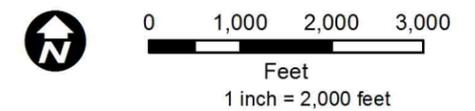
Landover Alternative

Table ES-6 contains the list of recommended mitigation measures, while figure ES-13 shows their locations. The overall intersection LOS grades for the Build with Mitigation Condition are depicted in figure ES-14 for the AM and PM peak hours.

Figure ES-13: Landover Build with Mitigation Condition Traffic Mitigation Locations



- Site Boundary
- Roadway Improvement
- Intersection Improvement (Signalized)
- Intersection Improvement (Unsignalized)



Sources:
ESRI (2013), GSA (2013), Prince George's County (2013)

Table ES-6: Landover Recommended Traffic Mitigation Measures

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|---|---|---|
| A | Landover Road (MD 202) and Old Landover Road | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for the PM peak period. | None |
| B | Landover Road (MD 202) and Dodge Park Road | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for the PM peak period. | None |
| C | Landover Road (MD 202) and Firehouse Road | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for the PM peak period. | None |
| D | Landover Road (MD 202) and Kenmoor Road | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| E | Landover Road (MD 202) and Barlowe Road | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| F | Landover Road (MD 202) and Brightseat Road | <ul style="list-style-type: none"> For the Landover Road eastbound approach, extend both left-turn lanes by 260 feet resulting in two 600-foot left-turn lanes, convert the existing 1,000 foot right-turn lane into a through lane, and create a new 400-foot right-turn lane to provide an approach with two left-turn lanes, four through lanes, and one right-turn lane. For the Landover Road westbound approach, create a new 775-foot right-turn lane to provide an approach with two-left-turn lanes, three through lanes, and two right-turn lanes. The right turn lanes would no longer be free movements, but would be under signal control. A two-lane right turn lane requires signal control for safety to allow the other movements leading to Brightseat Road northbound full access to the all available lanes. For the Brightseat Road northbound approach, extend the right most left-turn lane 350 feet back to the previous intersection (driveway serving Brightseat Road Property development), separate the right turn lanes from the through lanes, and create a new 400-foot right-turn lane to provide an approach with two left-turn lanes, two through lanes, and two right-turn lanes. For the Brightseat Road southbound approach, create a new 350 foot left-turn lane and 350-foot right-turn lane to provide an approach with three left-turn lanes, one through lane, one shared through/right-turn lane, and one right-turn lane. The right-turn lanes would no longer be free movements, but would be under signal control. Revise the traffic signal pattern from a split phase timing for Brightseat Road (north and south movements occur separately) to a protected lead-lag phase timing (similar to Landover Road approaches). Adjust the signal to provide a lead turn phase (occurs at the same time as the through movement) for the southbound left-turns and lag phase (occurs at the end of the through movements) for the northbound left-turns to allow vehicles to share the existing turning intersection geometry in the middle of the intersection. | 760 |
| G | Landover Road (MD 202) and I-95 Southbound on-ramp | <ul style="list-style-type: none"> For the Landover Road eastbound approach, add a third through lane extended back 1,750 feet to the Brightseat Road intersection, resulting in a four-lane MD 202 eastbound cross section between Brightseat Road and the I-95 southbound off-ramp. For the Landover Road westbound approach, add a third through lane extended 1,100 feet back to the previous intersection (I-95 northbound off-ramps), resulting in a four-lane MD 202 westbound cross section. Widen the Landover Road Bridge over I-95 by two lanes to the north to avoid impacting the existing loop ramps in the SE and SW corner of the interchange. Optimize the traffic signal and coordinate timings with nearby key intersections for AM and PM peak periods. | 530 |
| H | Landover Road (MD 202) and I-95 northbound off-ramp | <ul style="list-style-type: none"> For the Landover Road eastbound approach, add a fourth through lane extended 1,100 feet back to the previous intersection (I-95 southbound on-ramp), resulting in a four-lane Landover Road eastbound cross section spanning the bridge over I-95. Extend the left-turn lane 100 feet resulting in a 250-foot left-turn lane. For the Landover Road westbound approach, add a third through lane extended 300 feet back to the I-95 northbound on-ramp diverge from Landover Road. For the I-95 off-ramp approach, add a 400-foot third left-turn lane to provide an approach with three left-turn lanes and one right-turn lane. Optimize the traffic signal and coordinate timings with nearby key intersections for AM and PM peak periods. | None |

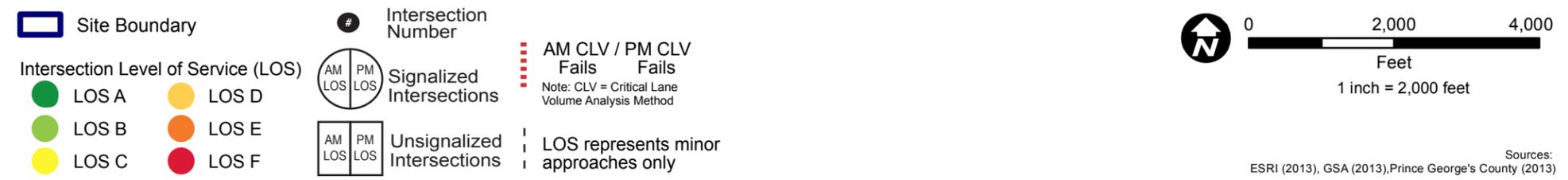
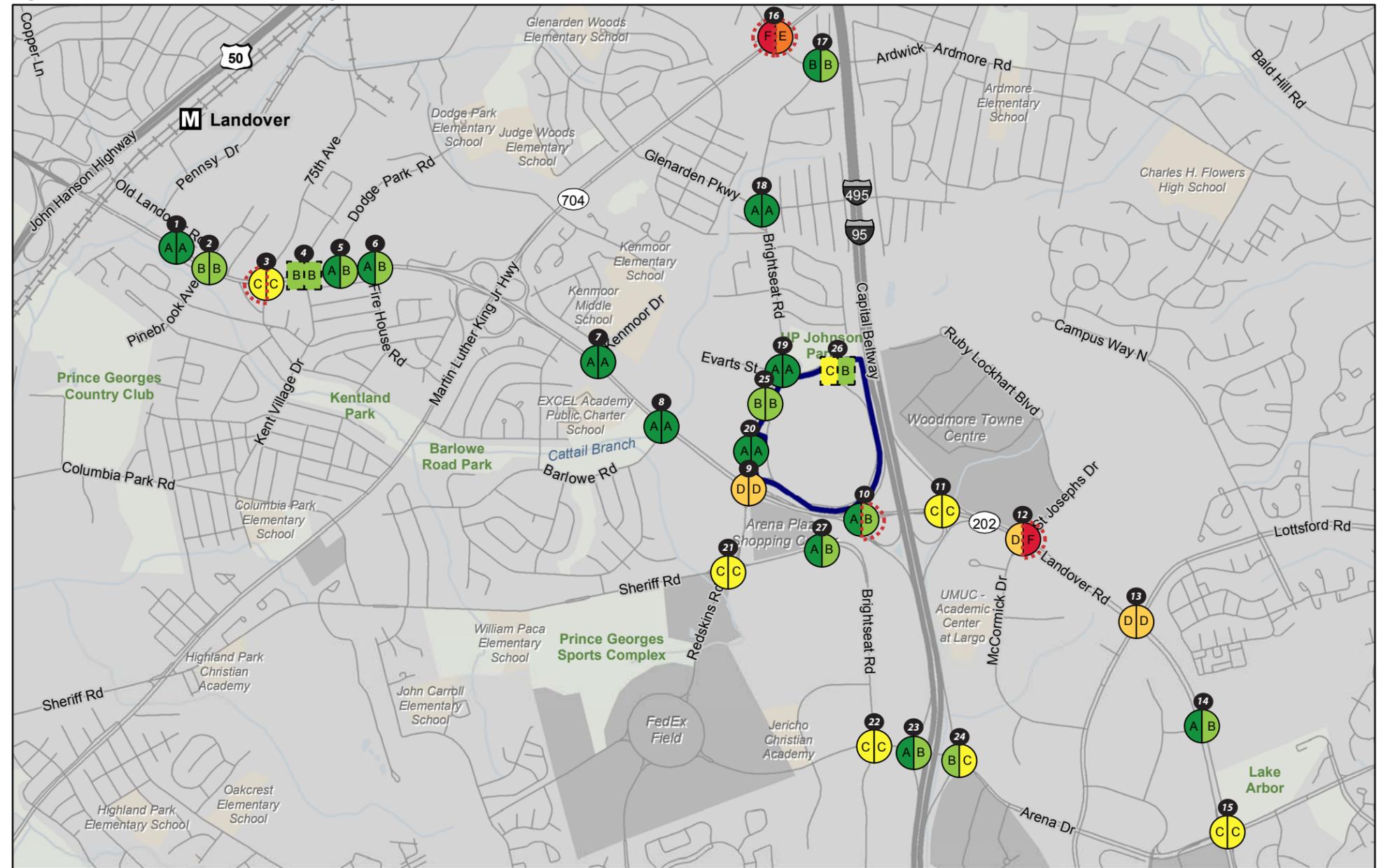
Table ES-6 Landover Recommended Traffic Mitigation Measures (continued)

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|---|--|---|
| I | Landover Road (MD 202) and McCormick Drive/St. Joseph's Drive | <ul style="list-style-type: none"> Optimize the traffic signal for the PM peak period and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| J | Landover Road (MD 202) and Lottsford Road | <ul style="list-style-type: none"> For the Lottsford Road southbound approach, create a new 350-foot left-turn lane to provide an approach with two left lanes, two through lanes, and one right-turn lane. For the Lottsford Road northbound approach, revise the existing lane geometry to provide an approach with two left-turn lanes, two through lanes, and one right-turn lane. Optimize the traffic signal and coordinate timings with nearby key intersections for the AM and PM peak periods. | None |
| K | Landover Road (MD 202) and Technology Way | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| L | Landover Road (MD 202) and Arena Drive/Lake Arbor Way | <ul style="list-style-type: none"> Coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| M | Martin Luther King Jr. Highway (MD 704) and Ardwick-Ardmore Road | <ul style="list-style-type: none"> For the Ardwick-Ardmore Road eastbound approach, revise the lane geometry to provide an approach with one right-turn lane, one through lane, and one shared through/left-turn lane. For the Ardwick-Ardmore Road westbound approach, install dynamic lane controls depending on the time of the day. Use the existing lane geometry during all times except during the PM peak period. During the PM peak period assign the left lane for shared through/left-turns only and the right lane for right-turns only. Optimize the traffic signal for AM and PM peak periods. | None |
| N | Ardwick-Ardmore Road and Brightseat Road | <ul style="list-style-type: none"> Install new traffic signal at Brightseat Road and Ardwick-Ardmore Road. For the Brightseat Road northbound approach, extend the right-turning lane along Brightseat Road northbound by 50 feet to a new length of 200 feet. | None |
| O | Evarts Street Bridge | <ul style="list-style-type: none"> Construct a new four-lane bridge over I-95 to connect the east and west parts of Evarts Street. | None |
| P | Brightseat Road and Site West Entrance/Maple Ridge Apartment south entrance | <ul style="list-style-type: none"> Upgrade the Build Condition traffic signal to serve exiting vehicles from the apartments only, allowing right or left-turns only. The traffic signal would not serve Brightseat Road northbound through or right-turn movements. Install a raised triangular curb in the middle of the intersection to allow left-turns from Brightseat Road northbound to the apartments and left-turns from the apartments to Brightseat Road northbound. Through moves from the apartments to the Site West Entrance would not be possible. The two Brightseat Road northbound through lanes would shift right after the intersection to allow the left-lane to only serve vehicles turning left from the apartments. For the Brightseat Road northbound approach, change the lane geometry to provide an approach with two right-turn lanes, a shared through/right-turn lane, one through lane, and one left-turn lane. | None |
| Q | Brightseat Road/Redskins Road and Sheriff Road/Brightseat Road | <ul style="list-style-type: none"> For the Redskins Road northbound approach, revise the lane geometry to provide an approach with one left-turn lane, two through lanes, and one right-turn lane. For the Brightseat Road westbound approach, revise the signing on the channelized right-turn to indicate a free merge. Revise the lane striping north of the intersection along Brightseat Road to clearly indicate that the right-most lane is closed to traffic to allow the westbound approach right-turn lane a free merge onto Brightseat Road northbound. One option is to replace the white lines with a 150-foot yellow stripe between the right and middle lanes from the intersection to the westbound right-turn lane merge. Optimize the traffic signal for AM and PM peak periods. | None |
| R | Brightseat Road and Site South Exit | <ul style="list-style-type: none"> Install a new traffic signal to serve the intersection during the PM only. Widen Brightseat Road in the southbound direction by one lane to form two 1,000-foot southbound travel lanes between the new FBI south exit intersection and the existing four-lane cross section | None |

Table ES-6 Landover Recommended Traffic Mitigation Measures (continued)

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|--|---|---|
| S | Brightseat Road and Arena Drive | <ul style="list-style-type: none"> For the Brightseat Road northbound approach, revise the lane geometry to provide one left-turn lane, one through lane, and one right-turn lane. For the Brightseat Road southbound approach, extend the left-turn lane by 290 feet to create a 500-foot left-turn lane and revise the lane geometry to provide two left-turn lanes and one shared through/right-turn lane. For the Arena Drive westbound approach, revise the lane geometry to provide one shared left-turn/ through lane, one through lane, and one right-turn lane. Optimize the traffic signal for the PM peak period. | 200 |
| T | Arena Drive and I-95 southbound on/off ramps | <ul style="list-style-type: none"> Replace the intersection with a two-lane roundabout. For the Arena Drive eastbound approach, revise the lane geometry to stripe the two left lanes to enter the roundabout and the right lane to provide a bypass lane that feeds directly onto the I-95 southbound on-ramp. For the Arena Drive westbound approach, revise the lane geometry to provide two lanes to enter the roundabout. For the I-95 southbound off-ramp, stripe the existing lanes to enter the roundabout and create a 200-foot right-turn lane to provide a bypass lane that feeds directly onto Arena Drive westbound. | None |
| U | Arena Drive and I-95 northbound on/off ramps | <ul style="list-style-type: none"> Replace the intersection with a two-lane roundabout. For the Arena Drive eastbound approach, revise the lane geometry to provide two lanes to enter the roundabout. For the Arena Drive westbound approach, revise the lane geometry to provide two lanes to enter the roundabout. For the I-95 northbound off-ramp, stripe the existing lanes to enter the roundabout and create a 150-foot right-turn lane to provide a yielding bypass lane that feeds directly onto Arena Drive westbound. | None |

Figure ES-14: Landover Build with Mitigation Condition Intersection LOS for AM and PM Peak Hours



Sources: ESRI (2013), GSA (2013), Prince George's County (2013)

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Springfield Alternative

Table ES-7 contains the list of recommended mitigation measures, while figure ES-15 shows their locations. The overall intersection LOS grades for the Build with Mitigation Condition are depicted in figure ES-16 for the AM and PM peak hours.

Table ES-7: Springfield Recommended Traffic Mitigation Measures

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|--|--|---|
| A | Franconia Road (VA 644) Westbound and Commerce Street | <ul style="list-style-type: none"> Optimize the traffic signal and coordinate timings with nearby key intersections for AM and PM peak periods | None |
| B | Franconia Road (VA 644) Eastbound and Loisdale Drive | <ul style="list-style-type: none"> For the Loisdale Road northbound approach, revise the planned roadway improvement design to lengthen the left-turn lane by 225 feet resulting in a 775-foot turn bay and revise the lane geometry to allow the Loisdale Road northbound left lane to directly feed into the middle left-turn lane at the intersection, the Loisdale Road northbound middle lane directly feed into the right most left-turn lane at the intersection, and Loisdale Road northbound right lane directly feed into the left most through lane at the intersection. For the Franconia Road eastbound approach, revise the planned roadway improvement design to extend the right-turn lane by 50 feet resulting in a 350-foot right-turn lane. Optimize the traffic signal and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| C | Loisdale Road and Loisdale Court | <ul style="list-style-type: none"> Optimize the traffic signal for the AM peak period and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| D | Loisdale Road and I-95 Northbound off-ramp/Spring Mall Drive | <ul style="list-style-type: none"> For the Spring Mall Drive westbound, revise the planned roadway improvement design by changing the channelized right-turn lane to provide a free merge onto Loisdale Road northbound by reducing the number of departing lanes from three to two on Loisdale Road northbound, thus allowing the channelized right-turn to feed into the planned new third lane. Optimize the traffic signal and coordinate timings with nearby key intersections for AM and PM peak periods. | None |
| E | Loisdale Road and Metropolitan Center Drive | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for the PM peak period. | None |
| F | Loisdale Road and Frontier Drive Extension | <ul style="list-style-type: none"> For the Loisdale Road northbound approach, revise the planned roadway improvement design to include a 300-foot right-turn lane (strip land taking required; approximately 400 linear feet). For the Loisdale Road southbound approach, revise the planned roadway improvement design to include two 350-foot left turn lanes (strip land taking required; approximately 400 linear feet). Optimize the traffic signal for AM and PM peak periods. | 800 |
| G | Loisdale Road and Newington Road | <ul style="list-style-type: none"> For the Newington Road westbound approach, extend the right-turn lane by 85 feet creating a 250-foot turning lane | None |

Table ES-7: Springfield Recommended Traffic Mitigation Measures (continued)

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|--|---|---|
| H | Loisdale Road and Fairfax County Parkway (VA 286) | <ul style="list-style-type: none"> For the Fairfax County Parkway northbound approach, revise the planned roadway improvement design to lengthen the right-turn lane and new through lane by 50 feet resulting in one 350-foot through lane and one 350-foot right-turn lane. For the Fairfax County Parkway southbound approach, revise the planned roadway improvement design to lengthen the left-turn lanes by 60 feet resulting in two 450-foot left-turn lanes. For the Loisdale Road westbound approach, revise the planned roadway improvement design to lengthen the existing right-turn lane by 60 feet resulting in a 425-foot right-turn lane (strip land taking required; approximately 60 linear feet). Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for the PM peak period. | 60 |
| I | Franconia Road (VA 644) Westbound and Frontier Drive | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for the PM peak period. Construct a network of pedestrian bridges to provide a safe path for pedestrians to cross Frontier Drive and Franconia Road for both the eastbound and westbound directions. | None |
| J | Franconia Road (VA 644) Eastbound and Frontier Drive | <ul style="list-style-type: none"> For the Frontier Drive northbound approach, extend the left-turn lane by 95 feet resulting in a 600-foot left-turn lane. Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for the PM peak period. Construct a network of pedestrian bridges to provide a safe path for pedestrians to cross Frontier Drive and Franconia Road for both the eastbound and westbound directions. | None |
| K | Frontier Drive and North Mall Entrance | <ul style="list-style-type: none"> Optimize the traffic signal for the PM peak period and coordinate timings with nearby key intersections for the AM peak period. | None |
| L | Frontier Drive and Mall South Entrance | <ul style="list-style-type: none"> Optimize the traffic signal for the PM peak period and coordinate timings with nearby key intersections for the AM peak period. | None |
| M | Frontier Drive and Spring Mall Drive | <ul style="list-style-type: none"> Optimize the traffic signal and coordinate timings with nearby key intersections for the AM peak period. | None |
| N | Frontier Drive and Franconia-Springfield Parkway (VA 289) westbound on/off ramps | <ul style="list-style-type: none"> Optimize the traffic signal for AM and PM peak periods and coordination timings with nearby key intersections for the PM peak period. | None |

Table ES-7: Springfield Recommended Traffic Mitigation Measures (continued)

| Map ID | Location | Mitigation | Strip Land Taking (Approximate Linear Feet) |
|--------|--|--|---|
| O | Frontier Drive and Franconia-Springfield Parkway (VA 289) eastbound on/off ramps | <ul style="list-style-type: none"> For the Franconia-Springfield Parkway eastbound approach, create a new 430-foot left-turn lane, create a new 440-foot right-turn lane, and alter the off-ramp to feed into each turn lane. The resulting lane geometry would be two left-turn lanes and two right-turn lanes. Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for the PM peak period. | None |
| P | Frontier Drive Extension and Metro Station Access Drive | <ul style="list-style-type: none"> For the northbound Frontier Drive Extension, revise the planned roadway improvement design to extend the right-turn lane by 60 feet resulting in a 200-foot right-turn lane. Optimize the traffic signal for the PM peak period. | None |
| Q | Frontier Drive Extension and Metropolitan Center Drive Extension | <ul style="list-style-type: none"> Revise the planned roadway improvement design to create a two-lane roundabout with two lane exits for Frontier Drive Extension northbound and southbound and a one lane exit for Metropolitan Center Drive Extension. Create two-lane entries for all three approaches. For the Frontier Drive Extension southbound approach, create a 175-foot right-turn lane that feeds into a 275-foot right-turn bypass lane and rejoins Metropolitan Center Drive Extension after the intersection serving the Springfield Metro Center Phase II development (approximately 150 feet west of the roundabout). | None |
| R | Frontier Drive Extension and Site South Access | <ul style="list-style-type: none"> For the Frontier Drive Extension eastbound approach, revise the planned roadway improvement design to create a 275-foot left turn lane. For the Site South Access southbound approach, create a channelized right-turn lane that yields onto westbound Frontier Drive Extension and a one-lane approach serving left-turning vehicles. The northbound Site South Access departing lanes would need to accommodate the ECF approximately 165 feet north of the intersection requiring five lanes. | None |
| S | Franconia Road (VA 644) and Beulah Street | <ul style="list-style-type: none"> Optimize the traffic signal for the PM peak period. | None |
| T | Franconia-Springfield Parkway (VA 289) and Beulah Street | <ul style="list-style-type: none"> For the Franconia-Springfield Parkway eastbound approach, change the lane geometry to provide one left-turn lane, three through lanes, and one right-turn lane by assigning the existing right-turn lane as a through lane and creating a new 200-foot right-turn lane. Extend the new through lane into the existing right-turn lane past the intersection and create a new 1,150-foot fourth lane past the intersection to receive the channelized right from the Beulah Street southbound approach. Extend the fourth lane to Walking Lane. | None |

Figure ES-15: Springfield Build with Mitigation Condition Traffic Mitigation Locations

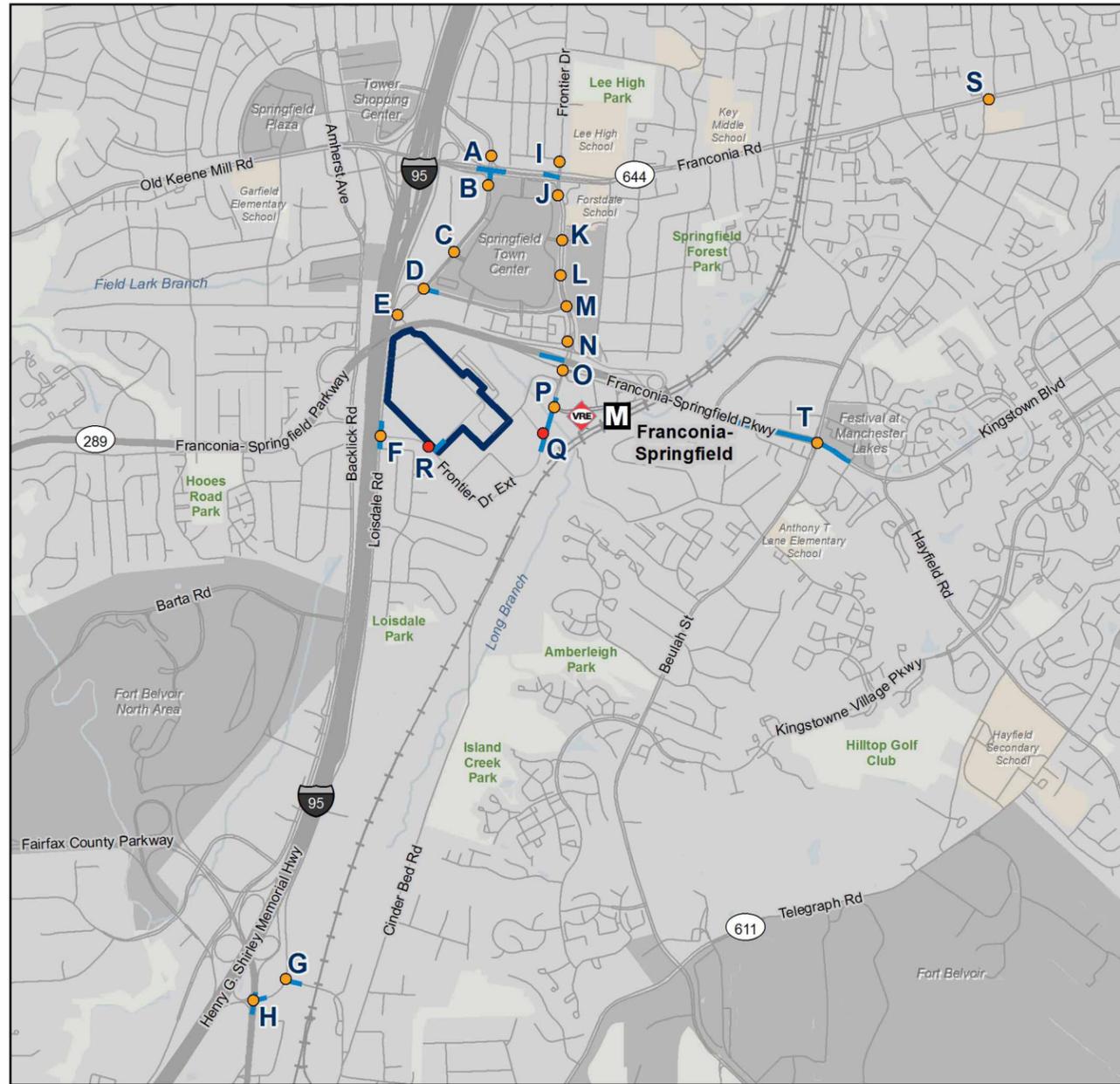
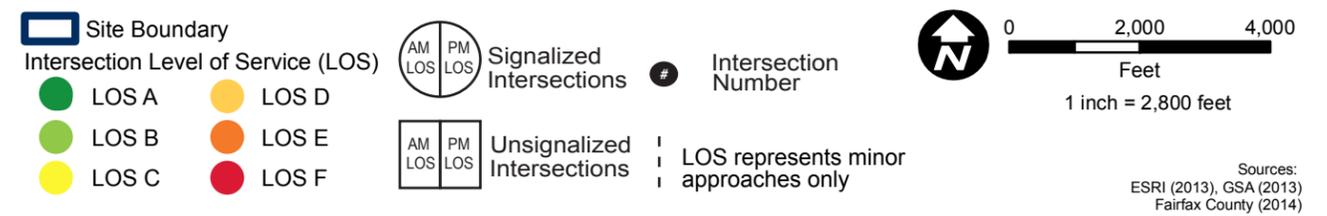
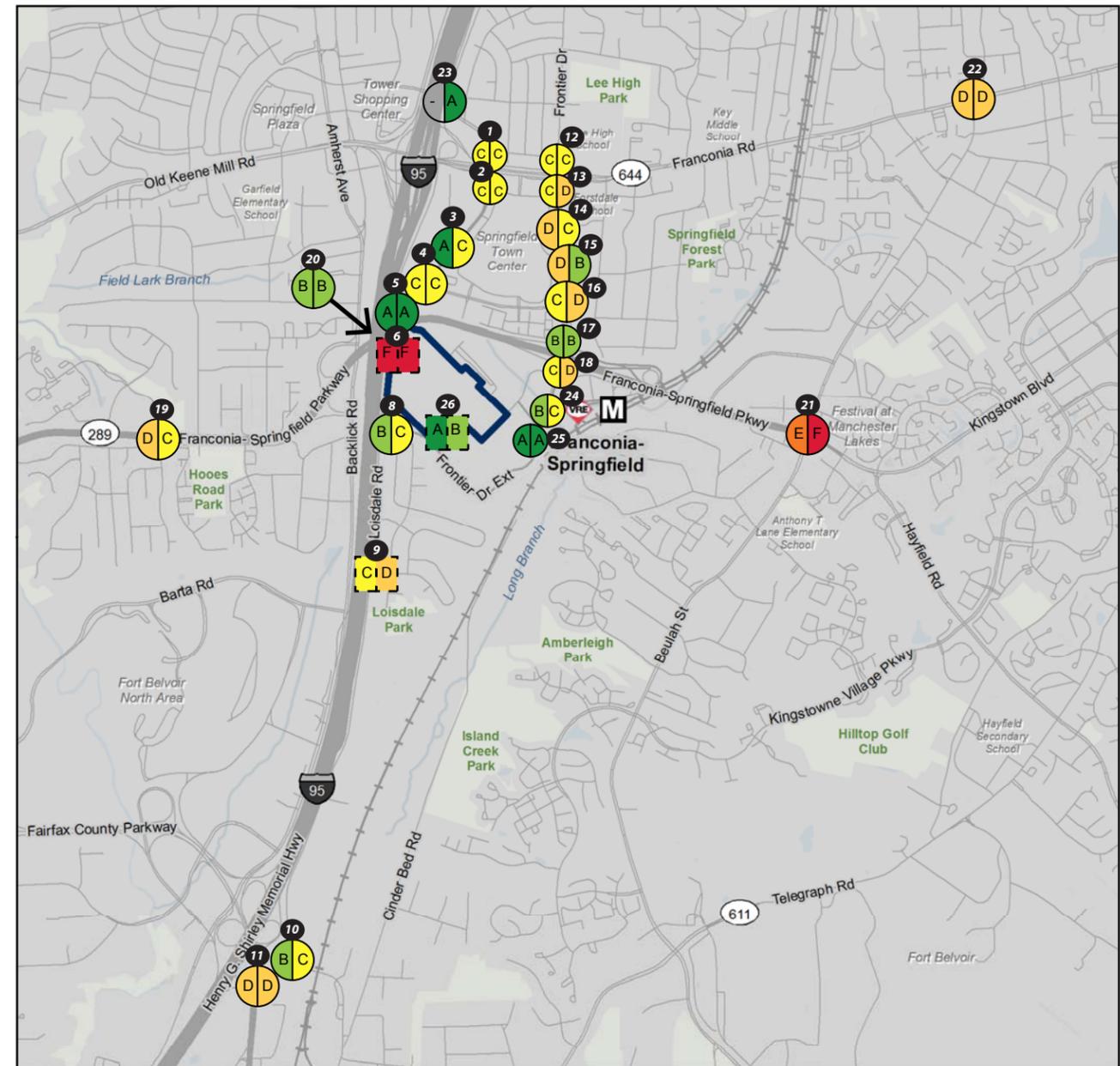


Figure ES-16: Landover Build with Mitigation Condition Traffic Mitigation Locations



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