This project will conduct the analysis to recalibrate parking standards for new development. The parking standards in Alexandria’s Zoning Ordinance are out of date. Non-auto travel has increased since current standards were set, and there are indications that household car ownership is declining, requiring an update.

The study will involve an inventory of current standards, review previous parking studies, assess recently approved parking ratios by location of development, and assess parking supply and utilization in existing development projects. The study will also look at on-street parking availability in recently approved residential/mixed use developments with a parking reduction and provide recommendations for standards that have been successfully used in other jurisdictions.

This project was added in FY 2017 and funded through the Transportation Improvement Program (TIP). It will build on a staff led study for residential parking standards for new development that was completed in 2015 and led to an updated ordinance for residential parking standards. The new study will examine parking standards for commercial uses.

Consistent with the Parking Work Program memorandum provided to Council in FY 2015, this project is being performed in FY 2018 to align with other parking work priorities.
This project provides funding for the deployment of new parking technologies, such as real-time parking occupancy systems for on-street spaces and parking garages/ lots, web-based interactive parking map, dynamic signage that illustrates real-time parking availability in city-owned garages, and other parking technologies. These technologies will mostly be off-the-shelf solutions requiring minimal design and engineering.

This project is fully funded with CMAQ/RSTP funds anticipated in FY 2018 – 2023. Specific projects contemplated include:

- **FY 2018-2019:** Phase I – Begin installing sensors in all City owned garages; begin to install sensors or similar technology in on-street spaces; and install dynamic directional signage that would indicate real-time parking availability and direct parkers to available parking spaces.
- **FY 2020-2021:** Phase II – Continue installing sensors in all City owned garages; continue installing sensors or similar technology in on-street spaces; and continue installing dynamic directional signage that would indicate real-time parking availability and direct parkers to available parking spaces.
- **FY 2022-2023:** Phase III – Develop interactive mobile and web-based applications to display both on-street and off-street real-time parking occupancy and availability using data from sensors installed in Phases I and II.

Depending on technology selected to monitor on-street space utilization and availability, additional funding may be needed to complete this project, or the project’s scope may be need to be narrowed. The City has applied for a CMAQ / RSTP grant fund for FY 2023 in the amount of $250,000 and expects to know in summer 2017 if the funding was secured.

Once implemented, these technologies will support economic development by providing more efficient parking strategies and allowing the City to manage parking and traffic assets more efficiently.
City of Alexandria, VA

CITYWIDE TRANS. MGMT. TECH. - BROADBAND COMMUNICATIONS LINK

DOCUMENT SUBSECTION: Fixed Transportation Equipment
MANAGING DEPARTMENT: Department of Transportation and Environmental Services
PROJECT LOCATION: 4600 - 5700 Eisenhower Ave
REPORTING AREA: Eisenhower West
PROJECT CATEGORY: 3
PRIMARY STRATEGIC THEME: Theme 10: Multimodal Transportation
ESTIMATE USEFUL LIFE: Varies

PROJECT DESCRIPTION & JUSTIFICATION

The Broadband Communications Link project will help mitigate the impacts of the proposed development on Eisenhower Avenue. The Victory Center site users will likely require the installation of two new traffic signals. At this time, the Victory Center remains in competition for the Transportation Security Administration (TSA) headquarters, and the Victory Center owners are also seeking other federal tenants for this site. There is no communications infrastructure in place to connect these new signals with the traffic signal system or the signals on either side of the development site. The existing signals on Eisenhower Avenue operate independently and are not synchronized.

This project will include communications conduit and fiber optic cable on Eisenhower Avenue between Van Dorn Street and Clermont Avenue, traffic cameras at key locations along Eisenhower Avenue to monitor Victory Center traffic, and the communications network to connect the new and existing traffic signals to provide synchronization along Eisenhower Avenue to mitigate the impacts of Victory Center related traffic.

This project will build onto the infrastructure installed with the ITS Integration Phase I project which has already been completed, as well as likely serve as a segment of the potential citywide broadband initiative.

Staff has requested and, been approved for, HB2 grant funding in the amount of $1 million to fund this project.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.
Overall project funding increased by $9 million.

**PROJECT DESCRIPTION & JUSTIFICATION**

This project provides funding for the deployment and upgrade of Intelligent Transportation Systems (ITS). Much of this work will focus on designing and constructing a broadband communications network, installing traffic cameras and other field devices, such as weather stations, flood monitoring equipment, pavement temperature sensors, etc. This is a multiphase project that is primarily grant funded.

ITS Integration Phase I has been completed. This phase of the project installed a broadband fiber optic communications network, 11 traffic surveillance cameras, and a management center at Business Center Drive.

ITS Integration Phase II is under construction and is scheduled to be complete by the end of FY 2018. Phase II expands the communications network installed in Phase I and installs additional traffic surveillance cameras.

The engineering for Phase III is expected to begin in FY 2018 with construction beginning in FY 2019. Future phases of the project will add new capabilities, such as pavement temperature sensors, flood monitors, and future vehicle to infrastructure technology applications currently being developed by the Federal Government. Completion of this project will replace much of the City’s 30 year old traffic signal communications and allow public safety department technology to monitor conditions on the City’s roadway network.

The design for ITS Integration Phase IV is expected to begin in FY 2020 and construction in FY 2021. Seven million dollars in HB2 (Smart Scale) funding was approved for the design and implementation of adaptive traffic signal control, and work on the design phase is scheduled for FY 2018.

**EXTRANEOUS OR INTERNAL ADOPTED PLAN OR RECOMMENDATION**

N/A

**ADDITIONAL OPERATING IMPACTS**

No additional operating impacts identified at this time.
**CITYWIDE TRANS. MGMT. TECH. - TRAFFIC CONTROL UPGRADE**

**MANAGING DEPARTMENT:** Department of Transportation and Environmental Services

**PRIMARY STRATEGIC THEME:** Theme 10: Multimodal Transportation

**ESTIMATE USEFUL LIFE:** Varies

**PROJECT DESCRIPTION & JUSTIFICATION**

The Traffic Control Upgrade project will fund the maintenance and upgrading of transportation management technology systems. The recent completion of the ITS Integration Phase I project installed technology driven infrastructure, such as a broad band fiber optic communications network throughout parts of the City, traffic surveillance cameras, and a management center at Business Center Drive.

Future phases of the ITS Integration project will expand the fiber optic network, add more traffic cameras as well as add other devices such as pavement temperature sensors and flood monitoring stations. The information from all these devices will go to the management center at Business Center Drive. The management center will be activated during snow removal operations and emergency events as well as for transportation management.

Technology has a short life and must frequently be upgraded to prevent obsolescence and failure. This project provides funding to maintain and upgrade technology infrastructure associated with the ITS Integration project. Additionally, this project provides funding for emergency repairs and replacement in cases of equipment failure.

**CHANGES FROM PRIOR YEAR CIP**

Funding added for FY 2026 and FY 2027.

**EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION**

N/A

**ADDITIONAL OPERATING IMPACTS**

No additional operating impacts identified at this time.
Overall project funding increased by $500,000.

**PROJECT DESCRIPTION & JUSTIFICATION**

This project funds the deployment of small, undefined transportation technology projects to improve efficiency of the transportation network through technology.

In the past, this funding was used to upgrade the parking meter modems from 2G to 3G to ensure continued operation and reliability as cellular providers phase out 2G service.

Future uses of this money include procuring real time passenger information systems and Voice Annunciator systems for DASH, procuring pavement sensors, traffic monitoring technology and upgrades allowing Ethernet communications to traffic signals.

**EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION**

N/A

**ADDITIONAL OPERATING IMPACTS**

No additional operating impacts identified at this time.
**PROJECT DESCRIPTION & JUSTIFICATION**

This project provides annual funding for the upgrade, maintenance and replacement of traffic control and parking equipment, as well as the installation of new traffic signals. Of particular importance is the replacement of traffic signal poles. Traffic signal poles have a design life of 25 to 30 years. With more than 250 signalized intersections in operation, numerous traffic signal poles throughout the City are approaching the end of their design life and will require replacement.

Funding is also provided for replacement of the multi-space meters in East Eisenhower/Carlyle in FY 2018 ($600,000) and in Old Town in FY 2023 ($1.5 million), which will have reached the end of their useful life and will need to be replaced. All funding will be used for the procurement of equipment and construction service.

Annual funding maintains the value of the City’s physical assets through the maintenance of critical traffic control infrastructure. Additionally, public safety concerns are addressed by installing new traffic signals to improve the safety at dangerous intersections.

**EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION**

T&ES Strategic Plan

**ADDITIONAL OPERATING IMPACTS**

The City typically installs a new traffic signal once every three years. The cost to maintain a traffic signal is $2,500 per year, which includes the cost to provide power to the traffic signal, as well as ongoing preventative maintenance and malfunction troubleshooting. While specific locations have not yet been identified, a new signal has been budgeted in the CIP for fiscal years 2020, 2023, and 2026.
Fixed Transportation Equipment (continued)

Fixed Transportation Equipment FY 2018 – FY 2020 Project List

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Reconstruct Signal at Van Dorn &amp; Van Dorn Plaza</td>
<td>$150,000</td>
</tr>
<tr>
<td>Reconstruct Signal at King &amp; Dearing</td>
<td>$150,000</td>
</tr>
<tr>
<td>Reconstruct Signal at King, Callahan, &amp; Russell</td>
<td>$150,000</td>
</tr>
<tr>
<td>Repair and upgrade traffic signal vehicle detection</td>
<td>$50,000</td>
</tr>
<tr>
<td>Knockdowns from accidents</td>
<td>$50,000</td>
</tr>
<tr>
<td>Replace Carlyle multi-space meters</td>
<td>$600,000</td>
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<tr>
<td><strong>Total Fiscal Year 2018</strong></td>
<td><strong>$1,150,000</strong></td>
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<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Reconstruct signal at King &amp; 28th</td>
<td>$150,000</td>
</tr>
<tr>
<td>Reconstruct signal at King &amp; Menokin</td>
<td>$150,000</td>
</tr>
<tr>
<td>Reconstruct signal at Columbus &amp; Prince</td>
<td>$120,000</td>
</tr>
<tr>
<td>Reconstruct signal at St. Asaph &amp; Montgomery</td>
<td>$120,000</td>
</tr>
<tr>
<td>Reconstruct signal at St. Asaph &amp; Madison</td>
<td>$120,000</td>
</tr>
<tr>
<td>Reconstruct signal at St Asaph &amp; Pendleton</td>
<td>$130,000</td>
</tr>
<tr>
<td>Repair and upgrade of traffic signal vehicle detection</td>
<td>$30,000</td>
</tr>
<tr>
<td>Knockdowns from accidents</td>
<td>$30,000</td>
</tr>
<tr>
<td><strong>Total Fiscal Year 2019</strong></td>
<td><strong>$850,000</strong></td>
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<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Reconstruct signal at Columbus &amp; Montgomery</td>
<td>$120,000</td>
</tr>
<tr>
<td>Reconstruct signal at Columbus &amp; Madison</td>
<td>$120,000</td>
</tr>
<tr>
<td>Reconstruct signal at Columbus &amp; Wythe</td>
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</tr>
<tr>
<td>Reconstruct signal at Alfred &amp; Cameron</td>
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</tr>
<tr>
<td>Reconstruct signal at Alfred &amp; Prince</td>
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<tr>
<td>New signal (undermined location)</td>
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<tr>
<td>Repair and upgrade of traffic signal vehicle detection</td>
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<tr>
<td>Knockdowns from accidents</td>
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</tr>
<tr>
<td><strong>Total Fiscal Year 2020</strong></td>
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