Scope of Work

- Site Visit
- Speed Data Collection
- Crash History Review
- Traffic Calming Assessment
- Stakeholder Meeting
- Technical Memo
Existing Street
Pedestrian Amenities
Data Collection Locations
## Speed Data

<table>
<thead>
<tr>
<th>Location</th>
<th>Market to Johnson</th>
<th>Johnson to Squaw</th>
<th>Squaw to Fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direction</td>
<td>EB</td>
<td>EB</td>
<td>EB</td>
</tr>
<tr>
<td><strong>85th Percentile Speed</strong></td>
<td>28 MPH</td>
<td>26 MPH</td>
<td>28 MPH</td>
</tr>
<tr>
<td><strong>95th Percentile Speed</strong></td>
<td>31 MPH</td>
<td>29 MPH</td>
<td>31 MPH</td>
</tr>
<tr>
<td>Average Speed</td>
<td>23 MPH</td>
<td>22 MPH</td>
<td>24 MPH</td>
</tr>
<tr>
<td>Percent of Vehicles &gt;25 MPH</td>
<td>34.6%</td>
<td>22.6%</td>
<td>36.5%</td>
</tr>
</tbody>
</table>
## Crash Data

<table>
<thead>
<tr>
<th>Collision Type</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear End</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>12%</td>
</tr>
<tr>
<td>Angle</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>18%</td>
</tr>
<tr>
<td>Head On</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Sideswipe - Same Direction</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>24%</td>
</tr>
<tr>
<td>Sideswipe - Opposite Direction</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Fixed Object in Road</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>12%</td>
</tr>
<tr>
<td>Fixed Object - Off Road</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Total Crashes</strong></td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>17</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Note: The data represents the number of crashes for each collision type from 2013 to 2018.*
Option 1 – Pavement Markings
Option 2 – Pavement Marking Chicane
Option 3 – Multi-Way Stops

Install Multi-Way Stops at Squaw Alley and Johnson Alley
Option 4 – Transverse Rumble Strips

Install Transverse Rumble Strips at Canal Street, Squaw Alley, Cross Street, Johnson Alley, and Market Street
Option 5 – Improved Pedestrian Crosswalks

Reconstruct Existing Pedestrian Crosswalks and Curb Ramps, Install New Pavement Markings and Signage

Install New Pedestrian Crosswalk and Curb Ramps, Install New Pavement Markings and Signage
Option 6 – Raised Crosswalks/Intersection

- Install Raised Pedestrian Crosswalk
- Install Raised Intersection at Cross Street
## Cost Estimates

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pavement Markings</td>
<td>$7,000</td>
</tr>
<tr>
<td>2</td>
<td>Chicane</td>
<td>$7,000</td>
</tr>
<tr>
<td>3</td>
<td>Multi-Way Stops</td>
<td>$2,000</td>
</tr>
<tr>
<td>4</td>
<td>Transverse Rumble Strips</td>
<td>$10,000</td>
</tr>
<tr>
<td>5</td>
<td>Improved Crosswalks</td>
<td>$8,000 – $45,000</td>
</tr>
<tr>
<td>6</td>
<td>Raised Crosswalks/Intersections</td>
<td>$60,000 – $95,000</td>
</tr>
</tbody>
</table>
VDOT Traffic Calming Guidelines

- Minimum Requirements
  1. Within the state system of highways
  2. Neighborhood setting
  3. Posted speed limit of 25 MPH

- Speed Study
  - 85\textsuperscript{th} percentile operating speed is 10 MPH or more above posted speed limit in one direction

- VDOT Review
  - Required for any changes to horizontal/vertical geometry
Conclusions

- **Speed Study**
  - 85th percentile only 3 MPH above posted speed limit

- **Crash Review**
  - 25% of crashes attributed to speeding
  - 35% of crashes involved a driver under the influence
  - Most crashes are property damage only crashes
  - Crashes are a result of vehicles leaving their travel path and hitting either a parked vehicle or opposing traffic.
Short-Term Recommendation

- Option 1 – Pavement Markings
  - Directly addresses the crash history relative to sideswipe and parked vehicle crashes and nighttime crashes.
  - Reduces vehicle speeds
  - Non-intrusive
  - No VDOT input required
  - Approximately 2-3 weeks for completion
Long-Term Recommendation

- Perform speed study and crash history review at least one (1) year from date of Option 1 installation.

- Option 6 – Raised Pedestrian Crosswalks
  - Provides speed reduction only
  - Does not address crash history along the corridor
  - Intrusive
  - VDOT approval and design input required
  - Approximately 7-9 months for completion
Questions?