Arlington Public Schools
Wilson School Site Evaluation
Traffic Analysis and Pick-up/Drop-off location

Building Level Planning Committee
March 30, 2016
Presentation Overview

• Review traffic impact analysis of school traffic
  – Includes pipeline developments
  – Includes assumptions about staff and student travel
  – Analyzes peak hour for arrival and dismissal

• Share issues and opportunities for
  – Parent drop-off
  – Vehicular transportation network
Study Area and Analysis Approach

What we analyzed...

• Arrival peak hour (8:20-9:20AM)
• Dismissal peak hour (3:15-4:15PM)
• 12 study intersections (see right)
• Vehicular delay, Level of Service and queuing
• Impact of pipeline developments
Pipeline Developments

Property Key
1. Rosslyn Gateway
2. Queens Courts Apartments
3. 1401 Wilson Blvd
4. 1812 N Moore St
5. Central Place
6. Rosslyn Plaza
7. Penzance Property
8. 1776 Wilson Blvd
9. Sedona/Slate Apartments

[Map showing various properties with numbers and locations on a street map of a city area.]
Calculating Trip Generation

- Trip generation, an estimate of the number of vehicle trips that can be expected, is an essential part of the traffic analysis.
- Includes: Students, Buses, Staff, Visitors.
- Students, both being dropped off and driving themselves, represent the largest number of trips arriving and leaving the school site.
Student Mode Splits

• Looked at three group of students separately
  – Grades 6-8, Grades 9-10, and Grades 11-12
  – Travel choices vary between groups

• Likelihood of mode change from current based on
  – Geographic location of school
  – Improved access to transit
  – Cost of parking for students
  – Student surveys
Mode Splits - Current & Future
High School (11th & 12th Grade)

231 students (11th & 12th grades)
Mode Splits - Current & Future
High School (11th & 12th Grade)

High School (11-12 Grades)

- Drop-off: Current 30%, Future 17% (12% decrease)
- Carpool: Current 2%, Future 10% (increase)
- Drive Alone: Current 25%, Future 12% (decrease)
- School Bus: Current 27%, Future 37% (increase)
- Transit: Current 8%, Future 16% (increase)
- Walk/Bike: Current 8%, Future 8% (no change)

231 students (11th&12th grades)
Mode Splits - Current & Future
High School (9th & 10th Grades)

- **Drop-off**: 28% (Current), 22% (Future)
- **Carpool**: 5% (Current), 3% (Future)
- **Drive Alone**: 63% (Current), 61% (Future)
- **School Bus**: 63% (Current), 3% (Future)
- **Transit**: 3% (Current), 1% (Future)
- **Walk/Bike**: 7% (Current)

231 students (9th & 10th grades)
Mode Splits - Current & Future
Middle School (6th - 8th Grades)

- **Current**
  - 76% Drive Alone
  - 17% Carpool
  - 2% Drop-off
  - 0% School Bus
  - 0% Transit
  - 0% Walk/Bike

- **Future**
  - 19% Drive Alone
  - 0% Carpool
  - 0% Drop-off
  - 0% School Bus
  - 0% Transit
  - 5% Walk/Bike

253 students (6th-8th grades)
## Vehicle Trip Summary

### Arrival Peak Hour

<table>
<thead>
<tr>
<th></th>
<th>IN</th>
<th>OUT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Drop Offs/Carpool</td>
<td>112</td>
<td>112</td>
<td>224</td>
</tr>
<tr>
<td>Students Drive Alone/Carpool</td>
<td>22</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Staff (^1)</td>
<td>68</td>
<td>0</td>
<td>68</td>
</tr>
<tr>
<td>Visitors</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Buses(^2)</td>
<td>21</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>227</td>
<td>137</td>
<td>364(^3)</td>
</tr>
</tbody>
</table>

1 – Assumes a 94% drive rate.
2 – Assumes 8 Stratford buses and 13 H-B Woodlawn buses.
3 - Compared to 295 trips at dismissal peak hour. Also, this is approximately 5% fewer trips at the Wilson site than the current arrival peak hour at the current school location.

246 student trips
Issues and opportunities

• Vehicular transportation network
  – Some intersections may require signal timing changes or additional turn lanes may be needed
  – One-way streets and offset intersections limit access somewhat

• Remote drop-off
Remote parent drop-off

Considerations include:

• Balance of convenience and proximity

• Avoid potential congestion along Quinn Street

• Avoid circuitous routes

• Observe and assess after several months’ experience
Parent Drop-off

- Parent drop-off analysis includes both:
  - How do students being dropped off ARRIVE?
  - How do parents dropping students off LEAVE?

- Several options being considered:
  - All drop-off on east side of Quinn Street
  - Additional, remote drop-off on Key Blvd, east of Quinn Street
  - Additional, remote drop-off on Quinn Street, north of Key Blvd
Drop-off on Quinn Street ONLY

How do students being dropped off ARRIVE at the site?

- 45% from N Quinn St
- 25% from N Pierce St
- 20% from N Scott St
- 10% from N Fort Myer Dr

112 inbound drop-off trips

Drop-off lane
Drop-off on Quinn Street ONLY

How do parents dropping off students LEAVE the site?

- 112 outbound drop-off trips

Diagram showing drop-off lane and percentages for traffic flow.
Remote Drop-off on Key Blvd

How do students being dropped off arrive at the site?

- Remote drop-off: 45%
- Drop-off lane: 25%
- Remote drop-off: 20%
- Remote drop-off: 10%

112 inbound drop-off trips
Remote Drop-off on Key Blvd

How do parents dropping off students LEAVE the site?

- 10% Remote drop-off
- 112 outbound drop-off trips

Drop-off lane

10% 30% 15% 15% 10%
Remote Drop-off on Quinn Street

How do students being dropped off ARRIVE at the site?

Remote drop-off

Drop-off lane

112 inbound drop-off trips
Remote Drop-off on Quinn Street

How do parents dropping off students LEAVE the site?

Remote drop-off

112 outbound drop-off trips

Drop-off lane
Parent Drop-off Summary

- Location needs to be both convenient for parents and provide a direct and safe connection for students.
- It will be important to observe and assess after school opens.
School Bus Management

• Currently working on school bus management for arrival and dismissal
• Assume both schools use 18th Street along school and park properties
• Factoring streetscaping and roadway design
• Shortly, we will present considerations, options and recommendations
QUESTIONS?