Silver Line
Comprehensive Plan Amendment (CPAM)

February 28, 2017
Loudoun County School Board

Presented by the County Department of Planning and Zoning and
LCPS Department of Support Services
Purpose

• Provide Summary of CPAM
• Review Land Use and Planning for Public Facilities (Parks, Schools, etc.)
• Implementation Steps
• Next Steps in the Process
Background: CPAM Goals

- Desirable Land Use Patterns
- Maximize Employment Opportunities
- Maximize Tax Revenue to support Metrorail operations
- Minimize Impacts on the Transportation System
Plan Components

• Land Use
• Urban Design Guidelines
• Community Facilities
• Transportation
• Economic Development
• Fiscal Planning

• Green Infrastructure
• Implementation
Current Planned Land Use Map
### Primary Land Uses
- Condominium
- Apartment
- Sit-down Restaurant
- Retail Sales
- Bank
- Grocery Store
- Night Club
- Multi-tenant Professional Office

### Secondary Land Uses
- Community Facilities
- Neighborhood Park
- Public Plaza
- Outdoor Seating

### Undesirable Land Uses
- Single-Family Attached and Detached homes
- Auto oriented uses (Gas Stations, Drive-through restaurants)

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**Land Use Mix**

- Mix of Uses

**Residential Density**
- 32 – 125 du/ac

**Non-Residential Intensity**
- 2.0 – 6.0 FAR

**Prevailing Building Height**
- 10 – 15 Stories (195’ Max)

**Primary Transportation Modes**
- Rail, Bus, Walk, Bike, Auto
Urban Mixed Use, Tall Buildings

• Mixed Use, Tall Examples
Urban Residential

• Urban Residential Examples
Urban Mixed Use, Medium Buildings

**TYPICAL MEDIUM URBAN MIXED-USE LAND USES**

**Primary Land Uses**
- Apartment Buildings
- Restaurants
- Grocery Stores
- Banks
- Integrated Retail Sales
- Doctor Offices
- Multi-tenant Office Buildings
- Corporate Office Buildings

**Secondary Land Uses**
- Community Facilities
- Schools
- Neighborhood Parks
- Public Plazas
- Urban style townhomes

**Undesirable Land Uses**
- Single Family Detached Homes
- Suburban style townhomes
- Auto oriented uses (Gas Stations, Drive-through restaurants)

**Land Use Mix**
- Mix of Uses

**Residential Density**
- 24 – 32 du/ac

**Non-Residential Intensity**
- 1.0 – 4.0 FAR

**Prevailing Building Height**
- 4 - 6 Stories (90’ Max)

**Primary Transportation Modes**
- Transit, Walk, Bike, Auto
Urban Residential

**Residential Land Uses**

**Primary Land Uses**
- Urban Style Townhomes
- Apartment Buildings
- Condominiums
- Two-over-Two Units
- Multi-family Attached

**Secondary Land Uses**
- Schools
- Churches
- Community Centers
- Limited neighborhood retail like drugstores and convenience stores in an urban, walkable format

**Undesirable Land Uses**
- Suburban style townhomes
- Suburban style retail uses

**Urban Residential Form and Pattern**

<table>
<thead>
<tr>
<th>Land Use Mix</th>
<th>Separated Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Density</td>
<td>8 – 24 du/ac</td>
</tr>
<tr>
<td>Non-Residential Intensity</td>
<td>N/A</td>
</tr>
<tr>
<td>Prevailing Building Height</td>
<td>3 – 6 Stories (70’ Max)</td>
</tr>
<tr>
<td>Primary Transportation Modes</td>
<td>Transit, Walk, Bike, Auto</td>
</tr>
</tbody>
</table>

Legend:
- Residential Plan Boundary
- Distance from Metrorail Stations
- 0.25 Miles
- 0.5 Miles
- 1 Mile
- Future Land Use Designation
- Urban Residential
Single-Family Attached Units

Single-Family Attached

- Auto Oriented
- Front or Rear Garages
- Typically ~2,200 SF
- Units set back from roads
- Typically have yards
- Up to 24 Feet wide
- ~8 Dwelling Units per acre
- Typically 3 stories

Urban Townhome

- Pedestrian Oriented
- Rear Load Garages
- Typically ~1,800 SF or less
- No or minimal setbacks
- Common open space
- Generally less that 20 Feet wide
- ~16 Dwelling Units per acre
- Up to 4 stories
Multi-Family Units

Multi-Family

- Auto Oriented
- Typically 1,500 SF
- ~20 DU per acre
- Setbacks from roads
- Typically surrounded by open space

Urban Multi-Family

- Pedestrian Oriented
- Typically 1000 SF
- ~48 DU per acre
- No or minimal setbacks
- Open space provided in courtyards or similar
Urban Design Guidelines

• Setbacks
• Sidewalk Width
• Planting Strips
• On-Street Parking
• Street Furniture
• Lighting
• Public Spaces
Community Facilities - Parks

- Within 1/8-mile of every new resident
- Benches, trees, picnic areas, ponds, trails, ballfields
- New park types for urban areas
- Linear park along Broad Run
Community Facilities - Schools

- Growth management policies to ensure residential development does not occur without provision of schools
- Projected need for new schools (Number and location depends upon rate of residential development and type)
- Student generation rates dependent on unit type
- Schools to be neighborhood serving
- Planning for urban school types (Implementation Step)
Chapter 5 CPAM Policies Address:

- Extensive future collaboration with LCPS to quantify needs and how they can be accommodated
- Provision for capacity inside and outside the CPAM boundaries
- Minimizing use of developable land for public facilities
- Evaluate the cost – benefit implications of urban schools
- Exploring/Continue co-location and co-use of land / buildings to achieve walkability & efficiency
Potential Areas for Schools
Implementation

• Zoning Modifications
• Interim Uses
• Capital Facilities Planning
  • New Facilities Standards
  • Zoning Ordinance Amendments
• Residential Development Types
  • Student Generation Rates
• Fiscal Balance and Monitoring
• Plan Monitoring and Updates
Planning Staff Collaboration

Planning Concepts Discussed:

- Student generation will be variable
- Student generation factors should be regularly examined, monitored and updated
- Two step process:
  - (1) Plan sets forth the goals, and
  - (2) Implementation defines the “how”
- Exploration of design options
CPAM Next Steps

• Planning Commission Work Sessions
  • Planning Topics to be addressed
  • Work Session Scheduled for March 2

• PC Recommendation to the Board of Supervisors
• Board of Supervisors Consideration (late spring/early summer 2017)
## Applications Filed in Silver Line CPAM Area

<table>
<thead>
<tr>
<th>Applications</th>
<th>SFD Units</th>
<th>SFA Units</th>
<th>MF Units</th>
<th>Projected Students 2016-2017 SGF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ryan Park Center</td>
<td></td>
<td></td>
<td>400</td>
<td>148</td>
</tr>
<tr>
<td>Silver District West*</td>
<td></td>
<td>394</td>
<td>2,850</td>
<td>1,275</td>
</tr>
<tr>
<td>Broadlands Ashburn Metro*</td>
<td>47</td>
<td>111</td>
<td>229</td>
<td>184</td>
</tr>
<tr>
<td>Loudoun Metro*</td>
<td></td>
<td></td>
<td>4,218</td>
<td>1,561</td>
</tr>
<tr>
<td>Loudoun Center</td>
<td></td>
<td></td>
<td>774</td>
<td>286</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>47</td>
<td>505</td>
<td>8,471</td>
<td>3,454</td>
</tr>
<tr>
<td>Approved Moorefield Station</td>
<td>50</td>
<td>1,300</td>
<td>4,650</td>
<td>2,489</td>
</tr>
<tr>
<td>(21% permits already issued)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>97</td>
<td>1,805</td>
<td>13,121</td>
<td>5,943</td>
</tr>
</tbody>
</table>

*These applications include proposed public use sites ranging in size from 12+ to 18 acres

SFD – Single Family Detached; SFA – Single Family Attached; MF – Multi-Family
Student Generation Factors

• Student Generation Factors (SGF) are calculated annually and are referenced in the School Board adopted Capital Improvement Program.

• SGF are calculated by dividing the number of students coming from specific residential types (e.g. Single Family Detached, Single Family Attached, Multi-Family, etc.).

• Loudoun County has no experience with high density residential development.

• Arlington County, VA may provide some valuable insights as Loudoun develops and matures.
## Student Generation Rates Applied to the Silver Line Densities

**LCPS 2016-2017 Student Generation Factors**

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Units</th>
<th>SGF</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFD</td>
<td>45</td>
<td>0.8</td>
<td>36</td>
</tr>
<tr>
<td>SFA</td>
<td>5,779</td>
<td>0.56</td>
<td>3,236</td>
</tr>
<tr>
<td>MF</td>
<td>16,595</td>
<td>0.37</td>
<td>6,140</td>
</tr>
<tr>
<td>Total</td>
<td>22,419</td>
<td></td>
<td>9,412</td>
</tr>
</tbody>
</table>

**Facilities Needed**

<table>
<thead>
<tr>
<th>Level</th>
<th>SGF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>4.8</td>
</tr>
<tr>
<td>MS</td>
<td>1.6</td>
</tr>
<tr>
<td>HS</td>
<td>1.6</td>
</tr>
</tbody>
</table>

SFD – Single Family Detached; SFA – Single Family Attached; MF – Multi-Family
## Student Generation Rates Applied to the Silver Line Densities

### Loudoun County Silver Line CPAM

#### Student Generation Factors 2015

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Units</th>
<th>SGF</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFD</td>
<td>45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SFA</td>
<td>5,779</td>
<td>0.5</td>
<td>2,890</td>
</tr>
<tr>
<td>MF</td>
<td>16,595</td>
<td>0.15</td>
<td>2,489</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,419</td>
<td></td>
<td>5,379</td>
</tr>
</tbody>
</table>

### Facilities Needed

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>2.7</td>
</tr>
<tr>
<td>MS</td>
<td>0.9</td>
</tr>
<tr>
<td>HS</td>
<td>0.9</td>
</tr>
</tbody>
</table>

SFD – Single Family Detached; SFA – Single Family Attached; MF – Multi-Family
## Arlington County Student Generation Factors 2015

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Units</th>
<th>SGF</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFD</td>
<td>45</td>
<td>0.469</td>
<td>21</td>
</tr>
<tr>
<td>SFA</td>
<td>5,779</td>
<td>0.267</td>
<td>1,543</td>
</tr>
<tr>
<td>MF</td>
<td>16,595</td>
<td>0.06</td>
<td>996</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,419</td>
<td></td>
<td>2,560</td>
</tr>
</tbody>
</table>

### Facilities Needed

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>1.3</td>
</tr>
<tr>
<td>MS</td>
<td>0.4</td>
</tr>
<tr>
<td>HS</td>
<td>0.4</td>
</tr>
</tbody>
</table>

SFD – Single Family Detached; SFA – Single Family Attached; MF – Multi-Family
## Student Generation Rates and Potential Facilities Need Range

<table>
<thead>
<tr>
<th>Facility</th>
<th>LCPS 2016-2017</th>
<th>Loudoun County Silver Line CPAM</th>
<th>Arlington County</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>4.8</td>
<td>2.7</td>
<td>1.3</td>
</tr>
<tr>
<td>MS</td>
<td>1.6</td>
<td>0.9</td>
<td>0.4</td>
</tr>
<tr>
<td>HS</td>
<td>1.6</td>
<td>0.9</td>
<td>0.4</td>
</tr>
</tbody>
</table>
• Affordable units, regardless of type, have higher SGF than market rate units
• SGF decreased as area median income increased
• Market rate elevator units (high rise) have significantly lower SGF (.06)
• SGF decline is more prevalent in studio and 1 bedroom units
• Newer homes or recently purchased SFD have higher SGF
Why Consider Metro School Designs?

**Land**
- Land is a premium
- Designs must be efficient
- Proximity to residential density

**Density**
- School size should be proportionate to residential density
- Accessibility
- School design should be compatible with urban design pattern

**Funding**
- Land costs will be high
- Silver Line revenues are to be maximized
# Metro Schools: What are the factors for consideration?

<table>
<thead>
<tr>
<th>The School</th>
<th>The Site</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Size and Capacity</td>
<td>• Site proportions /characteristics</td>
<td>• As the Silver Line urban area grows</td>
</tr>
<tr>
<td>• Civic Use</td>
<td>• Zoning</td>
<td>• Size schools appropriately</td>
</tr>
<tr>
<td>• Building Height</td>
<td>• Site Size</td>
<td>• Site needs dependent upon school needs</td>
</tr>
<tr>
<td>• Pedestrian Access and Walkability</td>
<td>• Setbacks</td>
<td>• Desire to minimize footprint and reduce land consumption</td>
</tr>
<tr>
<td>• Safety and Security</td>
<td>• Utilities</td>
<td></td>
</tr>
<tr>
<td>• Acoustics</td>
<td>• Stormwater management</td>
<td></td>
</tr>
<tr>
<td>• Daylight and Views</td>
<td>• Environmental</td>
<td></td>
</tr>
<tr>
<td>• Signage</td>
<td>• Playfields / Playgrounds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transportation</td>
<td></td>
</tr>
</tbody>
</table>
How will LCPS design a Metro School?

**Instruction**
- Class Size
- Physical Education
- Educational Operations
- Safety and Security
- Acoustics
- Daylight

**Expand Co-Location**
- Shared civic use with County
- Before- and after-school programs
- Parks/Libraries
- Shared recreational opportunities

**LCPS Education Specification**
- Prepare a version of a compact school design for the adopted *Educational Specifications*
Silver Line
Comprehensive Plan Amendment (CPAM)
Moving Forward

• LCPS Staff and County Staff Collaboration
  • CPAM Review and Approval Process
  • Capital Facilities Standards
  • Implementation Phase
  • Student Generation Factors
• LCPS Staff Engage Services of Architectural Firm(s)
  • Develop Educational Specifications
  • Develop Concept Design
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