Road Elevation Strategy and Neighborhood Project Prioritization

January 21, 2020
Meeting Outline

• Purpose
  • Jacobs is finalizing their recommendations
  • Our team is here to listen
  • Use comments/questions received to inform final recommendations

• Providing a comment
  • Speak during the meeting, or
  • Submit comments/questions after the meeting

• Comment ground rules during meeting:
  • Form a line to ask a comment/question
  • Speakers are limited to 2 minutes

• Online viewers email questions to: MBRisingAbove@miamibeachfl.gov
Comments After the Meeting

• Open comment period through January 24, 2020
• Questions on Citywide Stormwater Management? Please contact:
  
  Liz Bello-Matthews  
  Public Information Officer - Public Works Department  
  305-673-7000 ext. 6902  
  E-mail: LizBello-Matthews@miamibeachfl.gov
Project Leadership

Matt Alvarez
Project Manager
25 years

Juan Aceituno
Deputy Project Manager/
Implementation Task Lead
23 years

Laurens van der Tak
Climate Adaptation
Advisory Panel
30 years

Jason Bird
Planning Task Lead
20 years

Joe Rozza
Blue-Green & Sustainability
25 years

Monica Diaz
Public Outreach
15 years
Agenda

• Road Elevation Strategy
• Neighborhood Project Prioritization
  • Methodology and Criteria
• Questions and Comments
Task 2
Road Elevation Strategy
On sunny days, groundwater levels below Miami Beach rise and fall with sea level, because limestone geology connects the ocean and groundwater.
Tidal flooding is problematic in low-lying areas
Tidal Flooding increased with Rainfall
Long Term Strategy includes Elevated Roads, Sea Walls and Pumps
Raising roads is an important strategy to address sunny day tidal flooding in public right-of-way

- Through storm drains
- Through groundwater
- Through overtopping of coastal barriers (e.g., seawalls)
- Exacerbated by Sea Level Rise (SLR)
Road Elevation Strategy Overview

• Intent of Updated Policy
  • Incorporate updated tide data and SLR projections
  • Improve harmonization with private property

• Current Policy
  • Minimum road crown elevation for all roads: 3.7 ft NAVD (established in 2014)

• Draft Policy Approach
  • Flexible design options to address local needs and conditions
  • Address access, stormwater, and aesthetics while reducing flood risk
  • Tiered road elevations based on road classification
  • Alternative strategies to design road elevation below minimum elevation criteria if constrained by harmonization with private property

ROADWAY HARMONIZATION: A roadway design approach that maintains private property access, stormwater management, and neighborhood aesthetics through adaptable design standards.
Guiding Principles of New Road Raising Strategy

- Support keeping road surfaces above the king tide elevation to avoid sunny day tidal flooding
- Establish new minimum elevations for City roads based on updated tidal records and SLR projections
- Address increasing groundwater elevations and concern for poor pavement performance, including premature pavement failure related to saturated road base
- Address concern for private property harmonization
- Standardize application so policy is unbiased, objective, and transparent
- Consider cost implications
Key Factors that Influenced Current 2014 Road Elevation Design Guidelines

Recommended Road Elevation = \( A + B + C \)

A. Historical “King Tide” = 1.7 ft NAVD*

B. Sea Level Rise for assumed Service Life of 30 years: 1.0 ft

C. Freeboard (1 ft assumed for road cross-slope, drainage, and road base)

*NAVD = North American Vertical Datum

Current Road Elevation Strategy, Developed in 2014

CROWN OF ROAD ELEVATION ensures that the highest point of the road and important infrastructure is above rising tides.

One foot change in elevation
Summary of Key Factors that Determine Minimum Road Elevation Criteria

• Evaluates elevations at edge of road (EOR), not crown, and at bottom of road base (BORB), and picks the most protective standard

• Assumes 30-year road service life

• Updated Sea Level Rise projections

• Target frequency of flooding (applies at end of road service life):
  • **Local Roads**: 50% chance per year (includes roads classified by City as “Local”, mostly residential roads)
  • **Major Roads**: 20% chance per year (includes roads such as Washington Ave. classified as “Minor Arterial” and “Minor Collector”)
  • **Emergency Roads**: 10% chance per year (includes roads such as Alton Rd. classified as “Evacuation Route and access to First Responders”)
Updated decision process calculates minimum road elevations at two points on road section.

**Calculation Method 1:** Limited Flooding at Edge of Road

**Calculation Method 2:** Limited Groundwater/Tidal Wetting at Base of Road

**Method 3:** Roadway Harmonization with Adjacent Property

*Sea Level Rise increment will increase for later start years.*
Calculation Method 1: Limited Flooding at Edge of Road (EOR)

Level of Service by Road Type

**CALCULATION METHOD 1**

- **Emergency Roads**
  - 10% (1 per 10-year): 3.0 ft NAVD

- **Major Roads**
  - 20% (1 per 5-year): 2.3 ft NAVD

- **Local Roads**
  - 50% (1 per 2-year): 1.7 ft NAVD

Measured Tides (1994-2019) at Virginia Key (ft NAVD)

Long-Term Water Surface Elevation Data at Virginia Key (25 years of hourly data) is used to estimate probability of water elevations being exceeded.
Calculation Method 1: Limited Flooding at Edge of Road (EOR)

**Level of Service by Road Type**

**CALCULATION METHOD 1**

- **Emergency Roads**
  10% (1 per 10-year): 3.0 ft NAVD

- **Major Roads**
  20% (1 per 5-year): 2.3 ft NAVD

- **Local Roads**
  50% (1 per 2-year): 1.7 ft NAVD

**Water Surface Elevation at Virginia Key (ft NAVD)**

- 2.34 ft water elevation has 20% chance of being exceeded in any year (on average, once every 5 years).
Calculation Method 1: Limited Flooding at Edge of Road (EOR) results in EOR Minimum Elevation of 3.0 ft to 4.8 ft NAVD

**Relative Sea Level Change Scenarios for Miami Beach (NOAA*, 2017)**

- **Emergency Roads**: 10% (1 per 10-year): 3.0 ft NAVD
  - 2020 Start: 1.8 ft
- **Major Roads**: 20% (1 per 5-year): 2.3 ft NAVD
  - 2020 Start: 1.3 ft
- **Local Roads**: 50% (1 per 2-year): 1.7 ft NAVD
  - 2020 Start: 1.3 ft

---

* Sea Level Rise increment will increase for later start years

**SLR of 1.3 ft or 1.8 ft 30 years out from 2020, for NOAA Int-High or High Curves**

**30-yr service life of road**

*NOAA = National Oceanic and Atmospheric Administration*
Calculation Method 1: Limited Flooding at Edge of Road (EOR) results in EOR Minimum Elevation of 3.0 ft to 4.8 ft NAVD

<table>
<thead>
<tr>
<th>Level of Service by Road Type</th>
<th>Sea Level Rise for 2020 Start Year</th>
<th>Freeboard/Clearance</th>
<th>Preliminary Design Road Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency Roads</strong></td>
<td>10% (1 per 10-year): 3.0 ft NAVD</td>
<td>2020 Start: 1.8 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
</tr>
<tr>
<td><strong>Major Roads</strong></td>
<td>20% (1 per 5-year): 2.3 ft NAVD</td>
<td>2020 Start: 1.3 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
</tr>
<tr>
<td><strong>Local Roads</strong></td>
<td>50% (1 per 2-year): 1.7 ft NAVD</td>
<td>2020 Start: 1.3 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
</tr>
</tbody>
</table>

* Sea Level Rise increment will increase for later start years
Calculation Method 2: Limited Groundwater Wetting at Road Base during High Tide (MHHW) Results in Bottom of Road Base (BORB) Minimum Elevation of 2.9 ft NAVD

Level of Service by Road Type

Sea Level Rise for 2020 Start Year

Freeboard/Clearance

Preliminary Design Road Elevation

**CALCULATION METHOD 2: Limited Groundwater/Tidal Wetting at Base of Road**

- **All Roads**
  - Mean Higher High Water (MHHW): 0.6 ft NAVD
- **2020 Start:** 1.3 ft
- **Typ. Road Thickness (Base & Pavement):** 1 ft
- **Bottom of Road Base:** Clearance 1 ft
- **Edge of Road:** 3.9 ft minimum
- **Bottom of Road Base:** 2.9 ft

Minimum Elevation at Edge of Road (EOR)

Minimum Elevation at Bottom of Road Base (BORB)

NOAA Published MHHW of 0.2 ft NAVD for 1983-2001 epoch was updated to 0.6 ft NAVD based on recent tidal data.
Higher of two calculation methods is selected for EOR or BORB

<table>
<thead>
<tr>
<th>Level of Service by Road Type</th>
<th>Sea Level Rise for 2020 Start Year*</th>
<th>Freeboard/Clearance</th>
<th>Preliminary Design Road Elevation</th>
<th>Final Minimum Design Road Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CALCULATION METHOD 1: Limited Flooding at Edge of Road</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Roads 10% (1 per 10-year): 3.0 ft NAVD</td>
<td>2020 Start: 1.8 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
<td>Edge of Road: 4.8 ft</td>
<td>Emergency Roads EOR ≥ 4.8 ft BORB ≥ 2.9 ft</td>
</tr>
<tr>
<td>Major Roads 20% (1 per 5-year): 2.3 ft NAVD</td>
<td>2020 Start: 1.3 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
<td>Edge of Road: 3.6 ft</td>
<td>Major Roads EOR ≥ 3.9 ft BORB ≥ 2.9 ft</td>
</tr>
<tr>
<td>Local Roads 50% (1 per 2-year): 1.7 ft NAVD</td>
<td>2020 Start: 1.3 ft</td>
<td>Edge of Road: Freeboard 0 ft</td>
<td>Edge of Road: 3.0 ft</td>
<td></td>
</tr>
</tbody>
</table>

| **CALCULATION METHOD 2: Limited Groundwater/Tidal Wetting at Base of Road** | | | | |
| All Roads Mean Higher High Water (MHHW): 0.6 ft NAVD | 2020 Start: 1.3 ft | Typ. Road Thickness (Base & Pavement): 1 ft Bottom of Road Base: Clearance 1 ft | Edge of Road: 3.9 ft minimum Bottom of Road Base: 2.9 ft | Local Roads EOR ≥ 3.9 ft BORB ≥ 2.9 ft |

METHOD 3: Roadway Harmonization with Adjacent Property

*Sea Level Rise increment will increase for later start years*
Emergency Roads – Minimum Elevation at Edge of Road (Method 1): 4.8 ft NAVD

Minimum Edge of Road Elevation ensures that the lowest point of the road and important infrastructure is above flooding from rising tides.

For Emergency Roads, **Method 1** results in higher Minimum Elevation at Edge of Road for projects built in 2020.
All Roads – Minimum Elevation of Bottom of Road Base (Method 2): 2.9 ft, so Edge of Road is 3.9 ft assuming 1-ft road thickness

Method 2 is used to set Minimum Elevation of Bottom of Road Base: 2.9 ft NAVD for projects built in 2020.
Major Roads – Minimum Elevation of Edge of Road (Method 1): 3.6 ft NAVD, so Bottom of Road Base (Method 2): 3.9 ft NAVD is preferred

**Method 1:**
Limited Flooding at EOR

**Method 2:**
Limited Groundwater/Tidal Wetting at BORB

For Major Roads, **Method 2** results in higher Minimum Elevation at Edge of Road, assuming projects with 1-ft road thickness and built in 2020.
Road raising strategy for future projects increases in recognition of accelerating Sea Level Rise projections.

Relative Sea Level Change Scenarios for Miami Beach (NOAA, 2017)

<table>
<thead>
<tr>
<th>Project Start Date</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Roads (Method 1)</td>
<td>4.8</td>
<td>5.2</td>
<td>5.7</td>
<td>6.2</td>
<td>6.7</td>
</tr>
<tr>
<td>Arterial and Local Roads (Method 2) *</td>
<td>3.9</td>
<td>4.2</td>
<td>4.5</td>
<td>4.9</td>
<td>5.3</td>
</tr>
</tbody>
</table>

* Method 2 assumes 1 ft road thickness above bottom of road base.

SLR of 2.7 ft or 1.9 ft 30 years out from 2030
SLR of 3.7 ft or 2.7 ft 30 years out from 2040
SLR of 1.8 ft or 1.3 ft 30 years out from 2020
Harmonization with Adjacent Property

• If constraints are identified by the City Engineer, as a result of the minimum road elevation, then harmonization exception criteria supersede, at the discretion of the City Engineer.

• Example exception criteria may include:
  • Inadequate horizontal space to construct road improvements and tie back to existing grade
  • Driveway grades and grade break cannot meet City standards at new elevation, posing access concerns
  • Adverse stormwater management conditions created
Harmonization with Adjacent Commercial Property

- Existing issue (saturated base causing road system failures)
- Proposed road elevation creates conflicts with buildings
- Harmonization solution includes use of edge treatment to mitigate
Harmonization with Adjacent Residential Property

- Proposed road elevation may create driveway access issues.
- Shift sidewalks to decrease angle of slope.
- Raising sidewalk and roadway less to decrease angle of slope.
Proposed Criteria for Harmonization

• Driveway slopes within FDOT standards to avoid adverse conditions.

• Recommended maximum driveway slopes
  • Residential: 12.5% (1V:8H)
  • Commercial: 10.0% (1V:10H)

• Recommended max. sidewalk cross-slope = 1.5%
Proposed Criteria for Harmonization

If driveway slope changes more than 14.0% at a crest or sag, a vertical transition will be provided.

- Rounded vertical transitions
- Straight vertical transitions
Proposed Harmonization Solutions (Examples)

- Alternative road treatments (retaining walls, steps, ADA ramps, etc.)
- Temporary construction easement to reduce slope of driveways.
- Lower sidewalk at driveway to improve driveway grades.
- Collect stormwater from behind sidewalk, into storm drainage system.
- Don’t raise roadway as high as minimum standard.

(solutions vary between residential and commercial property)
Basements Defined

FEMA Definition:
Any area of a building having its floor subgrade (below ground level) on all sides.
(Definition adopted and codified by City of Miami Beach, Ordinance Section 54-35)
Purpose of Pumps, for Stormwater Management

• Maintain stormwater discharge during high tide, allowing streets and properties to drain.

• Elevating roads mitigates against high tides and groundwater.
Task 3
Neighborhood Project Prioritization
Neighborhood Project Group
Prioritization Objectives

- Strategically guide prioritization of City Neighborhood Projects
- Maximize benefits, minimize impacts
- Objective, transparent, and repeatable methodology

Overall Process for Neighborhood Project Prioritization

City Planning Processes → Individual Capital Projects → Prioritization Methodology → Group into Prioritized Neighborhood Projects

Today's Focus

Neighborhood Project:
A project involving multiple City Services; for example:
- Road improvements
- Water/sewer maintenance
- Stormwater upgrades
Guiding Principles

• Public safety is top priority

• Water and wastewater service delivery and environmental protection support multiple objectives
  • Public health, local economy, regulatory compliance

• Economic development is supported by City services
  • Service delivery/capacity, risk management

• Routine maintenance supports long-term service supply reliability

• Aesthetics not a stand-alone objective (but important)
Neighborhood Project Prioritization

• Development of Methodology
  • Established 11 project categories
  • Developed criteria for each category corresponding to level of importance (scores correspond to level of importance)
  • Developed weight factors for each category

• Notes About Methodology
  • Projects can have attributes that span multiple categories
  • Projects with multiple benefits produce higher scores
## Neighborhood Project Prioritization: Eleven Categories of Projects

<table>
<thead>
<tr>
<th>Project Categories</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Business visibility, landscaping, historical integrity, green streets</td>
</tr>
<tr>
<td>Coastal Flood Risk Management</td>
<td>Exposure and sensitivity to king tides, sea level rise, storm surge, extreme weather</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Type of development</td>
</tr>
<tr>
<td>Emergency (Critical) Facilities and Roads</td>
<td>Emergency response effectiveness</td>
</tr>
<tr>
<td>Environmental Benefits (Ecological)</td>
<td>Type of environmental benefits</td>
</tr>
<tr>
<td>Pedestrian and Bicycle Mobility</td>
<td>Infrastructure that enables more and safer pedestrian and bicycle movement</td>
</tr>
<tr>
<td>Potable Water/Fire Suppression System</td>
<td>Public safety, public health, and infrastructure condition</td>
</tr>
<tr>
<td>Rain Driven Storm Water Management</td>
<td>Flood management, environmental protection, and regulatory compliance</td>
</tr>
<tr>
<td>Road Classification</td>
<td>Type and capacity of road</td>
</tr>
<tr>
<td>Sanitary Sewer Service Delivery</td>
<td>Provision of service, capacity and condition of system</td>
</tr>
<tr>
<td>Transportation – Road Condition/Remaining Service Life</td>
<td>Condition and service life of road</td>
</tr>
</tbody>
</table>
### Neighborhood Project Prioritization

**Rating Projects Across Multiple Categories of Objectives and Benefits**

#### Category: Coastal Flooding Risk Management

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Surge Defense: People</td>
<td>10</td>
</tr>
<tr>
<td>Storm Surge Defense: City Services &amp; Infrastructure</td>
<td>7</td>
</tr>
<tr>
<td>King Tide Defense: Residential &amp; Commercial</td>
<td>6</td>
</tr>
<tr>
<td>Storm Surge Defense: Property</td>
<td>5</td>
</tr>
<tr>
<td>King Tide Defense: City Services &amp; Infrastructure</td>
<td>4</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Category: Environmental Benefits

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity to improve quality of stormwater discharge to Bay</td>
<td>10</td>
</tr>
<tr>
<td>Opportunity to address heat island effects</td>
<td>9</td>
</tr>
<tr>
<td>Opportunity to enhance natural habitat</td>
<td>7</td>
</tr>
<tr>
<td>Opportunity for natural system educational and interpretation</td>
<td>5</td>
</tr>
<tr>
<td>Opportunity to sequester carbon</td>
<td>4</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Category: Potable Water Distribution / Fire Suppression

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Suppression: Pressure and Capacity</td>
<td>10</td>
</tr>
<tr>
<td>Domestic Water Supply: Quality</td>
<td>9</td>
</tr>
<tr>
<td>Domestic Water Supply: Capacity</td>
<td>8</td>
</tr>
<tr>
<td>Reliability &amp; Performance Improvements: Breaks &amp; Leaks</td>
<td>6</td>
</tr>
<tr>
<td>Reliability &amp; Performance Improvements: Materials</td>
<td>4</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Category: Rain Driven Stormwater Management

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Quantity and Quality issues</td>
<td>10</td>
</tr>
<tr>
<td>Stormwater Quantity issues</td>
<td>8</td>
</tr>
<tr>
<td>Stormwater Quality issues</td>
<td>8</td>
</tr>
<tr>
<td>Non-Point Source Pollution Prevention</td>
<td>6</td>
</tr>
<tr>
<td>Non-Stormwater Discharge Elimination</td>
<td>6</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0</td>
</tr>
</tbody>
</table>
# Neighborhood Project Prioritization

Rating Projects Across Multiple Categories of Objectives and Benefits

<table>
<thead>
<tr>
<th>Rank</th>
<th>Project Category</th>
<th>Project Category Weight Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coastal Flood Risk Management</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Potable Water Distribution / Fire Suppression System</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Emergency (Critical) Facilities &amp; Roads</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>Sanitary Sewer Service Delivery</td>
<td>85</td>
</tr>
<tr>
<td>5</td>
<td>Rain Driven Storm Water Management</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>Environmental Benefits</td>
<td>70</td>
</tr>
<tr>
<td>7</td>
<td>Economic Development</td>
<td>60</td>
</tr>
<tr>
<td>8</td>
<td>Pedestrian and Bicycle Mobility</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>Road Classification</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>Road Condition Maintenance</td>
<td>40</td>
</tr>
<tr>
<td>11</td>
<td>Aesthetics</td>
<td>35</td>
</tr>
</tbody>
</table>
Example Application

• **Scoring and Prioritizing Projects**

1. Identify all projects in the Neighborhood Project Group

2. Develop score for each project:
   1. Can involve multiple categories
   2. Select single attribute that best represents the project
   3. Apply category weight factor to each attribute value
   4. Add up scores for project to get total project score

3. Add total project scores for all projects in Neighborhood Group for overall score for that group

4. Use overall Neighborhood Project Group score to compare and prioritize multiple Neighborhood Project Groups
# Neighborhood Project Group 1 (Hypothetical)

<table>
<thead>
<tr>
<th>Neighborhood Project Groups</th>
<th>Project</th>
<th>Project Category</th>
<th>Project Attribute</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Number</td>
<td>Description</td>
<td>Categories Addressed</td>
<td>Category Weight</td>
<td>Value</td>
</tr>
<tr>
<td>Neighborhood Project Group 1</td>
<td>Water System Upgrade for Fire Suppression. Include retrofit bioretention swales along roads while in neighborhood.</td>
<td>Upgrade Water Line for Fire Suppression</td>
<td>100%</td>
<td>Fire Suppression: Pressure and Capacity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rain Driven Stormwater Management</td>
<td>85%</td>
<td>Stormwater Quality issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aesthetics</td>
<td>35%</td>
<td>Green Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Benefits</td>
<td>70%</td>
<td>Protect the Bay</td>
</tr>
</tbody>
</table>

Total Score Neighborhood Group 1: 27.0
# Neighborhood Project Group 2 (Hypothetical)

<table>
<thead>
<tr>
<th>Neighborhood Project Group 2</th>
<th>Green Infrastructure: Constructed Wetland System</th>
<th>Stormwater Quantity and Quality Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue-Green Infrastructure Retrofit on green space with aesthetic enhancements and public education. Include adding pedestrian walkways and bike paths.</td>
<td>Rain Driven Stormwater Management</td>
<td>85%</td>
</tr>
<tr>
<td>Environmental Benefits</td>
<td>Stormwater Quantity and Quality Issues</td>
<td>70%</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Enhance Natural Habitat</td>
<td>35%</td>
</tr>
<tr>
<td>Pedestrian &amp; Bicycle Paths</td>
<td>Public Open Space/Parks</td>
<td>50%</td>
</tr>
<tr>
<td>Pedestrian and Bicycle Mobility</td>
<td>Pedestrian Pathways and Bicycle Lanes</td>
<td></td>
</tr>
</tbody>
</table>

**Total Score Neighborhood Group 2**: 21.4
# Neighborhood Project Group 3 (Hypothetical)

<table>
<thead>
<tr>
<th>Neighborhood Project Group 3</th>
<th>Road Replacement / Resurfacing</th>
<th>Road Condition Maintenance</th>
<th>40%</th>
<th>Local Commercial</th>
<th>8</th>
<th>3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green Infrastructure: Bioswale</td>
<td>Rain Driven Storm Water Management</td>
<td>85%</td>
<td>Stormwater Quality Issues</td>
<td>8</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aesthetics</td>
<td>35%</td>
<td>Green Streets</td>
<td>9</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Total Score Neighborhood Group 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.2</td>
</tr>
</tbody>
</table>

**Notes:**
- **Road Replacement / Resurfacing:** Routine Road Replacement (Condition). Include blue-green infrastructure along roadway.
### Example: Ranking and Prioritizing Multiple Projects Groups

<table>
<thead>
<tr>
<th>Neighborhood Project Group</th>
<th>Neighborhood Projects</th>
<th>Neighborhood Project Highlights</th>
<th>Overall Score</th>
</tr>
</thead>
</table>
| Project Group 1            | Water System Upgrade for Fire Suppression and Boretention Swale Along Road              | Multiple Projects Addressing Multiple Issues:  
1. Public Safety: Fire Suppression  
2. Environmental Protection  
3. Aesthetic Improvements | 27.0                                      |
| Project Group 2            | Wetland Added to Park Space for Improved Water Quality, Green Space and Aesthetics      | Multiple Projects Addressing Multiple Issues:  
1. Flood Management  
2. Environmental Protection  
3. Increased Mobility / Sustainability  
4. Aesthetic Improvements | 21.4                                      |
| Project Group 3            | Routine Road Replacement (Condition). Include blue-green Infrastructure along roadway.  | Single Project Addressing Multiple Issues:  
1. Required / Routine Maintenance  
2. Environmental Protection  
3. Aesthetic Improvements | 13.2                                      |
Thank You
For Getting Involved
Comments
From The Public