HARLEM BIKE NETWORK

Bike Lanes and Safety Improvements

Presented to Community Board 11
Spring 2017
Harlem Bike Network Expansion

PRESENTATION OVERVIEW

Background

- Mobility:
  - NYC in Numbers
  - Citi Bike

Community Engagement

- Vision Zero
- Citi Bike
- Harlem River Bridge Access Plan
- Street Ambassadors

Proposal

- Goals and Route Selection
  1. 110th/111th St
  2. 126th/128th St
  3. 5th Ave

Summary

- Benefits of Design Elements
Background
Recent Travel Trends (2010-2015)

+370,000
New York City residents

+520,000
new jobs

As the city grows, there is higher demand on the transportation system and people are increasingly turning to mass transit, FHV carpooling, and cycling.

+20%
growth tourists

+10%
growth in subway trips

+80%
growth in daily cycling trips
BIKE NETWORK – Citi Bike

Recent Trends

Total Number of Citi Bike Trips in NYC:
2016 - 14 million trips
2015 - 10 million trips

Citi Bike regularly serves over 70,000 trips per day

more than

Staten Island Ferry
Boro (green) Taxi
PROJECT AREA

**Counts**

1. **110th St** (Manhattan Ave to Central Park W)
   - Weekend: 1,401
   - Weekday: 637

2. **110th St** (5th Ave to Lenox Ave)
   - Weekend: 1,110
   - Weekday: 725

3. **5th Ave** (112th to 115th St)
   - Weekend: 422
   - Weekday: 408

4. **125th St** (Amsterdam Ave to Morningside Ave)
   - Weekend: 436
   - Weekday: 450

5. **1st Ave** (124th St & RFK Bridge)
   - Weekend: 593
   - Weekday: 704

6. **ACP Blvd** (136th St & 137th St)
   - Weekend: 340
   - Weekday: 217

**Background**

Minimal bicycle infrastructure in CB 9, 10, and 11
Heavily used routes
PROJECT AREA – Citi Bike Expansion Area (110th St to 130th St)

Trips taken
Quarter 4 2016
37,052
Background

PROJECT AREA – Citi Bike Expansion Area (110th St to 130th St)

Citi Bike provides a new transportation option and increases neighborhood biking that

- Is useful for short trips – most Citi Bike trips are between 6 and 9 min (average trip is under 14 minutes)
- Can be faster and more convenient than taking a bus
- Can be used to get to subway stations for efficient multi-modal trips
- Makes biking an easy option for those who don’t own or have a place to store a bike
- Is an affordable option – unlimited 45 min trips for $15/month (with an annual membership, discounted memberships are $5/month)
Community Outreach
SAFETY – Vision Zero

Goal:
 Reduce preventable deaths and injuries through improved engineering, education, and enforcement

Outreach Process:
 Public workshops
 Interactive Web Portal
 Borough Action Plans
 Roll-out of safety initiatives

Outcome:
 Release of Borough Action Plans
 Continue roll out of safety initiatives
 Three years of declining fatalities (2014-17)

Redesigns of high-crash corridors that include bicycle facilities can improve safety for all road users
CITI BIKE

**Goal:**
- DOT and Motivate work with community to find **best locations** for stations in neighborhood, and expansion roll out

**Outreach Process:**
- 2015 – Present
- Community workshops
- Public web portal
- Meeting with community representatives, institutions, and BIDs

**Outcome:**
- 2016 - **draft plan** with location of Citi Bike stations identified through community engagement
- 2017 expansion of Citi Bike in CB 9, 10 and 11 (110th St to 130th St)
HARLEM RIVER BRIDGES ACCESS PLAN

Goal:
- Increase and improve **pedestrian** and **bicycle safety** and **mobility** between Manhattan and the Bronx across 13 Harlem River Bridges

Outreach Process:
- 12 workshops
- 200 surveys

Outcome:
- In Summer 2017 DOT will release report highlighting **37 priority projects**
- Roll out of projects
**Goal:**
- Further evaluate pedestrian and bike potential connections based on community’s feedback.

**Outreach Process:**
- Follow up to HRBAP, collection of additional community feedback, Street Ambassadors deployed to 12 deployments, 8 locations

**Outcome:**
- 49% of surveyed ride bike in NYC
- 78% of surveyed have friends or family who bike in NYC
- Almost three times as many people reported to riding a bike or walking to parks and green spaces in the neighborhood compared to driving, or taken public transit

Locations - Focus on Harlem Community hubs
Goal:
 Further evaluate pedestrian and bike potential connections based on community’s feedback.

Outreach Process:
 Follow up to HRBAP, collection of additional community feedback, Street Ambassadors deployed to 12 deployments, 8 locations

Outcome:
 Further identified issues and opportunities for bike infrastructure in Harlem

STREET AMBASSADORS DEPLOYMENT

Where Do You Ride?

Where Would You Like to Ride?

Survey Comments

“I want to start biking next summer and good infrastructure encourages me to do that more.”

“[We need] more bike lanes, better enforcement, and better signage.”

“Times have changed and we need to share the road.”
Goal:
- Work with community and DOT to increase bike education, improve bike infrastructure, enhance safety to address health inequities

Outreach Process (on-going):
- Convened East Harlem Biking Coalition (Nov 2016)
- Conducted 1:1 conversations about biking with community partners (Jan-Feb 2017)
- Convened organizations to report on trends (March 2017)
- Co-hosted El Barrio Bike Bash with community partners (March 2017, 186 participants)

Outcome:
- Biking is a great way to get around, improve health and socialize
- Younger generation is excited about biking
- Biking is engrained in Latino culture and has a rich history in East Harlem
- Lack of bike infrastructure
- Safety concerns
Proposals
## PROJECT GOALS / ROUTE SELECTION

### PUBLIC INPUT
- Vision Zero
- Citi Bike
- Harlem River Bridge Access Plan
- Street Ambassadors
- Department of Health

### SAFETY
- Redesign roadway to reduce on-street injuries and fatalities for all road users
- Address community’s safety concerns
- Use wayfinding to direct cyclists to safest routes

### MOBILITY
- Prioritize routes that provide safe and direct connection to existing network
- Create all-ages-friendly routes with connection to green and recreational spaces
- Accommodate Citi Bike expansion

10 cyclists killed, 92 cyclists were severely injured in CB 9, 10, 11, between 2010 and 2014

### Proposal
Identify and develop projects that:
- Incorporate public input
- Increase safety for all road users
- Create direct, connected bike network that improves mobility and enhances access to key destinations
**Proposal**

**PROJECT AREA**

126th St/128th St
- Identified as a priority route during HRBAP workshops and S.A. deployment
- Re-design of W 110th St, and FD Circle (community safety concerns)
- Connects to Willis Ave and RFK

**5th Ave**
- Strong desire for protected bike lane identified through S.A. outreach
- Excess width encourages speeding and other unsafe behavior
- Serve people traveling south as well as those traveling north on other streets

110th/111th St
- Limited east-west through streets (first opportunity after 72nd St)
- Identified as a priority route during HRBAP workshops and S.A. deployment
- Re-design of W 110th St, and FD Circle (community safety concerns)
Proposal

PROJECT AREA

1. **110th /111th St (5th Ave to FDR)**
   - Access to Greenway and Parks
   - Cross-town Connection

2. **126th /128th St (2th to 5th Ave)**
   - Access to bridges
   - Extension of east-west routes proposed in CB9 and 10

3. **5th Ave (110th to 120th St)**
   - Protected bike route to/from Marcus Garvey Park and Central Park
# SAFETY

## Injury Summary, 2010-2014 (5 years)

### 110th St/111th St (5th Ave to FDR)

<table>
<thead>
<tr>
<th></th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
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<tbody>
<tr>
<td>Pedestrian</td>
<td>43</td>
<td>5</td>
<td>0</td>
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<tr>
<td>Bicyclists</td>
<td>15</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>114</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>172</strong></td>
<td><strong>13</strong></td>
<td>0</td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

### 5th Ave (110th St to 120th St)

<table>
<thead>
<tr>
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<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian</td>
<td>17</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>65</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>93</strong></td>
<td><strong>8</strong></td>
<td>0</td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

### 126th St/128th St (5th Ave to 2nd Ave)

<table>
<thead>
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<th></th>
<th>Total Injuries</th>
<th>Severe Injuries</th>
<th>Fatalities</th>
<th>KSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian</td>
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<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Motor Vehicle Occupant</td>
<td>125</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>164</strong></td>
<td><strong>5</strong></td>
<td>0</td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

*Source: Fatalities: NYCDOT, Injuries: NYSDOT. KSI: Persons Killed or Severely Injured*

### Opportunity to re-design corridors to be safer for all road users
EXISTING/ISSUES – E 110th, 111th St

- One-way; typically 30’ – 34’
- No dedicated space for cyclists
- Cyclist position in roadway unpredictable for drivers and pedestrians
Standard width travel lane accommodates all vehicles, improves predictability, easier for pedestrians to cross.

Bike lane creates dedicated, predictable space for cyclists, separate from moving vehicles, discourages sidewalk riding to reduce pedestrian conflicts.

Re-design of roadway has no impact on vehicle capacity or parking loss.

Creates access to Central Park, East River Greenway, 1st and 2nd Ave protected lanes.
PROPOSED DESIGN ELEMENTS

Organized Roadway
Increases safety, predictability, comfort
PROJECT AREA – STREET NETWORK

Street Network

Proposed Bicycle Access

Contraflow Bike Lane

No changes for vehicles

Allow 2-way bicycle access to Harlem River Greenway
PROPOSED IMPROVEMENTS – 110th St (5th Ave to Madison Ave)

- Contra-flow bike lane creates **continuous eastbound route**
- Design requires parking on 110th St to be relocated to the next block

**Connection from Central Park**
PROPOSED IMPROVEMENTS – Parking Relocation

Existing Parking Configuration

Proposed Parking Configuration

Net gain of 2 parking spaces

- Parallel parking
- No Parking
- 90 degree back-in parking
PROPOSED IMPROVEMENTS – E 111th St (A New St to FDR Drive)

- Signs and markings permit bike access in both directions on lightly trafficked block to/from greenway
- Connection to Thomas Jefferson Park and the Manhattan Waterfront Greenway
EXISTING/ISSUES – 126th, 128th St

- One-way
- No dedicated space for cyclists
- Cyclist position in roadway **unpredictable** for drivers and pedestrians
PROPOSED IMPROVEMENTS – 126th, 128th St Typical Cross Section

- **Standard width travel lane** accommodates all vehicles, improves predictability, easier for pedestrians to cross

- **Bike lane** creates dedicated, predictable space for cyclists, separate from moving vehicles, discourages sidewalk riding to reduce pedestrian conflicts

- East-west connection north of 125th St

- Challenging street grid; limited east-west opportunities for direct routes

**Proposal**

- Creates access East River Greenway, 1st and 2nd Ave protected lanes, Willis Ave and RFK Bridges
PROPOSED DESIGN ELEMENTS

Organized Roadway
Increases safety, predictability, comfort
EXISTING/ISSUES – 5th Ave (Central Park to Marcus Garvey Park)

- Excess vehicular capacity
- Wide travel lanes encourages speeding and other unsafe behavior
- Long pedestrian crossings
- Vulnerable users; schools, senior care facilities and churches along corridor
- Cyclist position in roadway unpredictable for drivers and pedestrians
PROPOSED IMPROVEMENTS – 5th Ave (Typical Design)

- Complete streets re-design
- Narrower roadway with standard width lanes discourages speeding, shortens pedestrian crossings
- 2-way protected bike lane creates dedicated, predictable space for cyclists, discourages wrong-way and sidewalk riding, and reduces pedestrian conflicts
- Painted pedestrian islands create shorter and safer pedestrian crossings

Traffic Study
Goal: Improve safety for all road users while maintaining traffic flow
Data collection: Automated Traffic Recorders, Manual Turn Counts
Analysis: Study existing conditions including vehicle volumes, geometry, signal timing, turning movements
Result: Two lanes provide sufficient capacity for vehicle volumes

Peak Hour Volume: 996
8-9am at 110th St
PROPOSED IMPROVEMENTS – Left Turn Locations

- Left-turning vehicles kill or severely injure (KSI) pedestrians and cyclists at over three times the rate (19%) of right turn vehicle (6%)

- **Seniors are more at risk**: median age for pedestrian and bicycle KSI by a left-turning vehicle is 67; all other fatal crash types have median age of 50

- **Spilt phase signals** increase safety by providing protected time for pedestrians and cyclists to cross, require left turn lanes

- **Minimal impact on parking** – limited parking removal required for left turn bays (9 spaces for entire project), will be offset by addition of new legal parking spaces
PROPOSED IMPROVEMENTS – 5th Ave (115th St to 112th St)

- Existing informal perpendicular parking on east curb
- Proposed formal perpendicular parking on west curb
- Creates new legal parking spaces, offsetting changes due to safety improvements

Proposal results in net gain of legal parking spaces along corridor
PROPOSED DESIGN ELEMENTS

Creates bike access between Central Park and Marcus Garvey Park that is comfortable for all ages and abilities
PROPOSED DESIGN ELEMENTS

- Shortens pedestrian crossing distances
- Guides motorists through turns
- Improves visibility

Painted Curb Extension

High Visibility Crosswalk
Summary
Proposal

PROJECT AREA – Proposed Bike Network

[Map showing the proposed bike network with various streets and landmarks, including Marcus Garvey Park and Central Park.]
BENEFITS OF DESIGN ELEMENTS

Vehicles
- Organize the roadway
- Improve safety
- Improve alignment, and visibility
- Establish standard width; discourage speeding

Cyclists
- Provide dedicated space for cyclists
- Increase predictability of cyclists location for motorists and pedestrians
- Connection to existing network
- Provide wayfinding

Refuge islands, painted neck downs, and high visibility crosswalks
- Create shorter, safer pedestrian crossings
- Improve alignment at intersections
- Discourage drivers from encroaching into crosswalk

Street re-designs improve safety for all road users
Questions?

THANK YOU!
PROPOSED DESIGN – 5th Ave (112th St and 115th St)

Existing Parking Configuration

Proposed Parking Configuration

**Parking Gain +24**
PROPOSED DESIGN – 5th Ave (112th St and 115th St)

Existing Parking Configuration

- Parallel parking
- 90 degree parking (informal)

Proposed Parking Configuration

- 90 degree back-in parking
- Parking Gain +24