Why are we here?

• Bicycle Fatality Study - Improve Safety
• Mayor’s PlaNYC – A Greener Transportation Network
• 1997 Bicycle Master Plan
NYC DOT Bicycle Program

- 200 mile, 3 year bicycle route commitment
- Targeting Areas of High Demand & Key Connections
- **Design Approach:**
  1. Study Best Practices
  2. Apply & Interpret Standards & Guidelines to Constrained NYC Environment
  3. “Complete Streets” Design Philosophy
Cyclist Safety in NYC

- Serious injuries declining
  - 41% decline in last decade
  - 46% decline adjusted for population
- Fatalities – no trend in last 10 yrs
  - Average 23 fatalities/yr
  - 17 fatalities in 2006

Source: NYC DOT Fatality Database
Rendering of New Gansevoort Plaza intersection of 9th Ave, Hudson and 14th Streets – one of many destinations.
Current configuration

4 vehicle moving lanes, little pedestrian amenities, no bike facility
Traffic Analysis

9th Avenue SB Traffic Volumes

- During peak hours never more than 1800 vehicles per hour
- Each travel lane comfortably accommodates 600 vehicles per hour
- Currently 4 travel lanes – excess capacity

Source: April 2005 DOT ATR Volume data (W 16th – W 13th Streets); 2004 West Chelsea Rezoning FEIS (W 21st Street)
# Bicycle Volumes

9th Avenue between W 18th & W 17th Streets

<table>
<thead>
<tr>
<th>Total Number of Cyclists</th>
<th>782</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Male Cyclists</td>
<td>680</td>
</tr>
<tr>
<td>Total Female Cyclists</td>
<td>102</td>
</tr>
<tr>
<td>% of Male Cyclists</td>
<td>87%</td>
</tr>
<tr>
<td>% of Female Cyclists</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of Total Helmet Use</th>
<th>29%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Male Helmet Use</td>
<td>21%</td>
</tr>
<tr>
<td>% of Female Helmet Use</td>
<td>55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of Total Cyclist Traveling with Traffic</th>
<th>91%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Male Cyclist</td>
<td>92%</td>
</tr>
<tr>
<td>% of Female Cyclist</td>
<td>65%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% Traveling Against Traffic</th>
<th>4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Male Traveling Against Traffic</td>
<td>4%</td>
</tr>
<tr>
<td>% of Females Traveling Against Traffic</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% Traveling On Sidewalk</th>
<th>5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of males Traveling on Sidewalk</td>
<td>4%</td>
</tr>
<tr>
<td>% of Females Traveling On Sidewalk</td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AM &amp; PM Peak Travel Hour &amp; Volume</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour</td>
<td>8:30AM - 9:30AM</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>5:45PM - 6:45PM</td>
</tr>
</tbody>
</table>

Counts performed from 7AM – 7PM on July 10, 2007
9th Avenue Design – Complete Street

Safe and comfortable street for all users

- Higher quality experience for cyclists of all levels
- Secure and pleasant pedestrian experience
- Conflict-free loading and unloading
- Thru vehicle movements accommodated
- Congestion-free surface transit

A complete street meets needs of all users
Current configuration

Pedestrian Experience – Fair
- long crossing distance (70’)

Cyclist Experience – Poor
- no cycling space

Motorist Experience – Acceptable
- little to no congestion

Parking/Unloading – Acceptable
- easy curbside access

Transit – Acceptable
- local bus service

9th Ave between 19th and 20th Streets – typical street configuration
Clinton Street, Brooklyn – Typical 5’ wide, striped bicycle lane
Buffered Bicycle Lane

8th Avenue, Manhattan – Buffered bicycle lane, 3 vehicle lanes
Separated Bicycle Path

Tillary Street, Brooklyn – connecting to the Brooklyn Bridge
Why this type of facility?

- Compliance Problems/Intrusion Rates of Striped, On Street (Class 2) Lanes
- Strong NYC Advocacy Call for “Protected” or “Segregated” or “Separated” Paths
- Success / Popularity of European Cycletrack Networks
- Success / Popularity of NYC Greenways Near City Center
- Potential Growth in Cycling / Mode Shift in NYC

Curb-separated “Cycle-Track” in Copenhagen, Denmark
Examples of Pedestrian Improvements

Pedestrian island with ‘cut-through’

Curb extensions shorten crossing distance

Parking aligns with curb extension, giving pedestrians a view of oncoming traffic
Design Proposal

9th Avenue Cross-section

- Sidewalk
- 10' Bike Lanes
- Planter Buffer (Low Shrubs)
- 25' Width
Proposed configuration

3 vehicle moving lanes, pedestrian refuge islands, separated bike path

- Vehicle Moving Lane
- Parking Lane
- Bicycle space
- Pedestrian Space
Pedestrian Experience
- reduces crossing distance by 25’
- planting beds

Cyclist Experience
- separated bike path
- bicycle signals

Motorist Experience
- sufficient lanes to handle volumes
- mobility restriction at banned left turn at W 20rd St

Parking/Loading
- single space meters replaced with multi space
- some parking loss where there are left turn bays
  - Three new loading zones
  - Net loss of about 20 metered parking spaces

Transit
- bus service unchanged
**9th Avenue Long-term Build-out**

- **Pedestrian Experience**  - more green space opportunity
- **Cyclist Experience**  - more robust separation
- **Motorist Experience**  - no additional change
- **Parking/Unloading**  - no additional change
- **Transit**  - no additional change
Project Summary

Pilot Separated Bicycle Path
- Ten foot, one-way **signalized** bike path with 8’ buffer
- Safe, comfortable facility

Pedestrian Refuge Islands
- **Shortens crossing** distance from 70’ – 45’
- **Greener** street with planting beds

Left Turning Vehicles
- Left turn lanes at W 22\textsuperscript{nd}, W 18\textsuperscript{th} and W 16\textsuperscript{th} Streets
- Left turns banned at W 20\textsuperscript{th} Streets

Parking
- Loss of ~20 metered parking spaces for left turn bays
- New Muni-Meters and loading zones
End of Presentation