• Introduce crowdsourcing application for City’s spatial data
  • Bike routes
  • Building footprints
• Discuss some data issues that may be of interest to users, developers and data scientists.
• Recruit cyclists, developers, GIS users as pilot users
NYCyclist Summed Up

NYCyclist is a tool to facilitate government←→citizen spatial data collaboration.

- City exports data → users make edits → City imports edits and accepts or rejects
- Yearlong pilot
- 100 user cap
- Webmap-based
- Uses only City data

- **Bike routes**: maintained by NYCDOT
- **Building footprints**: planimetric data maintained by DoITT
Webmap user interface: **GeoSHAPE** (Geospatial capabilities for Security, Humanitarian Assistance, Partner Engagement)
NYCyclist Feedback Loop

Users will log in, make edits in the webmap environment. The city will import the data, accept or reject edits and export the data back to the app.
GeoGig is an open-source, Distributed Version Control system for geospatial data

- **Working tree**: where data editing takes place
- **Staging area**: intermediate area before data is moved to database
- **Database**: where history of data repository is stored
**Data Task 1:** DOT bike data needed to be conflated to CSCL geometry.

NYCDOT Bike Routes data was based on an outdated version of LION, making the conflation process complex.

**Steps:**

1. **Start**
2. **Does the record have a Segment ID?**
   - yes
   - no
   - no
     - yes
     - Assign Bike Data a Segment ID that Matches one in CSCL
   - yes
     - Conflate Bike Route Data with CSCL data
   - no
     - Create new Segment in CSCL and matching segment ID in Bike Data

**End**
**Data Task 2:** Creating a system for keeping the bike data in the application up to date.

- **First plan:** Give NYCDOT direct CSCL editing privileges allowing City to export nightly to GeoGig

- **Final plan:** DCP and NYCDOT make edits and City exports LION quarterly
**Data Task 3:** Collecting data on bike route direction

- How can we prompt users to enter this data correctly?
How can we prompt the users with the appropriate from-street and to-street?

“LION – NY Cyclist” attribute table
- No from-street or to-street data
- Has NodeIDFrom and NodeIDTo
Bike Route Direction

From-streets and to-streets were assigned to each LION segment based on Physical ID

Result Table for Segments 100, 200 and 300

<table>
<thead>
<tr>
<th>PhysSegID</th>
<th>Street</th>
<th>PhysID From Node</th>
<th>Phys ID From Node Street (excluding “Street”)</th>
<th>Phys ID To Node Street (excluding “Street”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Street A</td>
<td>W</td>
<td>Street B</td>
<td>Z</td>
</tr>
<tr>
<td>50</td>
<td>Street A</td>
<td>W</td>
<td>Street B</td>
<td>Z</td>
</tr>
</tbody>
</table>

SegID = 100
PhysID = 50
Street = A
Seq = 1
FromNode = W
ToNode = X

SegID = 200
PhysID = 50
Street = A
Seq = 2
FromNode = X
ToNode = Y

SegID = 300
PhysID = 50
Street = A
Seq = 3
FromNode = Y
ToNode = Z

Street B
Street A
Street C
Street D
Street B
Provide a dropdown menu that allows users to choose the appropriate bike route for each direction.
Data Task 4: Collecting new data on bike routes
Volunteer!

• We are recruiting 100 users for the pilot project. Give me your info.
• Tell your cyclist, developer and GIS user friends.
• Upcoming presentation with GeoNYC Meetup group in December.

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