Route 52 Bridge Replacement
Shared Use Path & Automated Count Program
Ocean City, NJ
Route 52 Bridge Replacement
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In the summer of 2006, NJDOT began the first part of its $400 million project to replace the Route 52 Causeway bridges between Somers Point and Ocean City:

- Completed in 2012
- 2 fixed and 2 moveable bridges were replaced by 2 high fixed-span bridges
- *Ocean City Visitors Center* was reconstructed as part of the new Scenic Overlook
  » *Other amenities included boat ramps, fishing piers, parking lots and walkways*
- A 10-foot wide paved shared use path extends the full length of the project
  » *A walkway connects the Visitors Center and fishing areas along the bridge to other bicycle and pedestrian facilities in Somers Point and Ocean City*
- New bridge has **10-foot wide shoulders**
Shared Use Path Facility
Shared Use Path Facility
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Shared Use Path Facility
Trail User Comments

- I love the new path
- I like exercising here more than the boardwalk
- It’s beautiful with amazing views of the bay
- Please install more trash cans
- Provide water fountains at both ends of the path
- Remove sand on the bridge, and fix expansion joint
- Some confusion that bikes belong on the Shared Use Path
- During peak usage periods, the path can get crowded
Automated Count Program

- Measure the success of the new path
- Compare usage to other trails
- Demonstrate value of the investment
ECO Multi-Counter

Installation Location

Installation on 7/24
by NJDOT Electrical,
Southern Region
ECO Multi-Counter

- Counts are bidirectional and distinguish between bicyclists and pedestrians

**Eco-MULTI**

- Ultra strong
- Invisible
- 2 years
- In / out
- 2 year memory
- Waterproof IP 68
- 15 min
- No maintenance
- Eco-vista

**Features & Benefits**
- Reliable trends over time
- Pedestrians and bicycles distinction
- Bidirectional detection
- Non-intrusive technology
- Range of up to 6 m/20'
- Battery powered (2 years)
- 2 year data storage
- Waterproof
- Hourly or 15 min. recording intervals
- Count & Classify
- Pedestrians & Cyclists
Counting Pedestrians - Heat Signature

Pyroelectric Sensor

How it Works?

The PYRO sensor uses a combination of passive infrared pyroelectric technology and a high precision lens to detect a change in the detected temperature when a person passes in the range of the sensor. Thanks to its extremely high sensitivity, the sensor can detect two different people with only a small gap between them. The sensor is self-calibrating for simple installation.

Technical Characteristics

Valuable trends over time
Pedestrian and fast bicycle detection
Bidirectional detection
Non-intrusive technology
No permission needed for installation
No maintenance
High autonomy: 10 year battery life
2 year data storage
Waterproof
Range up to 15m / 50'
Hourly or 15 min. recording intervals

PYRO Sensor - Passive Infrared detection
ZELT loop analyzes the electromagnetic signature of each bicycle wheel.
Calibration

- Software calibration can correct for counting errors
- Compared Eco-Counter results to manual counts
  » *Eco-Counter unit under-counted both bikes and pedestrians*

Heat Signature Masking

- Groups under-counted when passing counter side by side

Non-detectable bike materials

- Observed as pedestrians
Results through September 1st » 40 days

- Total Count - 58,000
  - 37,800 pedestrians / 23,200 cyclists
- Average Daily Trail Volume - 1,457
  - Average weekday - 1,364
  - Average weekend day - 1,673
- Almost half (nearly 48%) of daily usage was between 8am and noon
- Weather significantly affects the average usage
  - ☀️ Weekdays - 1,455  Weekend days - 1,954
  - ☁️ Weekdays - 1,091  Weekend days - 1,392
- Night in Venice Boat Parade
  - Largest single day volume - 2,644  817 between 6:30 and 9:30PM
Total Count (August 2014)

- 10am was the peak hour on both weekdays and weekends
  - Nearly 4 per minute

- Highest hour in August: 330
  - 5.5 per minute
Results through September 1st

Path users per day

Night in Venice

unless it's raining

weekends higher than weekdays

unless it's raining

Labor Day
### Results through November 14th

- **114 days**

<table>
<thead>
<tr>
<th>Month</th>
<th>Average Daily Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>1432</td>
</tr>
<tr>
<td>September</td>
<td>657</td>
</tr>
<tr>
<td>October</td>
<td>365</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>805</strong></td>
</tr>
</tbody>
</table>

- **Total Count**: 91,500
- **Pedestrians**: 57,300
- **Cyclists**: 34,200
DVRPC Eco-Counter Locations

- To New Brunswick, Newark, and NYC
- To Wilmington, Baltimore, and Washington, DC
- To Harrisburg
- To Reading, Pottsville & Appalachian Tr.
- To Bethlehem
- To Easton, the Poconos & Wilkes-Barre

Existing Trails
Planned Trails
Trails in Progress

Data available for 8 Counters
12 Counters Planned
DVRPC Counts - Average Daily Totals (July 25 - October 31)

To New Brunswick, Newark, and NYC
To Wilmington, Baltimore, and Washington, DC
To Harrisburg
To Reading, Pottsville & Appalachian Tr.
To Bethlehem
To Easton, the Poconos & Wilkes-Barre
To New Brunswick, Newark, and NYC

Ocean City (ADT - Period)
883

Ocean City (ADT - August)
1432
Follow-up

- NJDOT press release (?)
- Web access to data
- User survey - next summer
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