Flooded Canarsie Tunnel

Canarsie Tunnel Reconstruction

Superstorm Sandy Damage, Tunnel Repair Work and Impacts to L Service

Tunnel work needed

- Repairing fire protection system
- Replacing Cable: Communication 176,000 ft. Power 126,000 ft.
- Installing 14,400 ft. of new tracks and 15,800 ft. of third rail
- Repairing 7,110 ft. of concrete lining
- Reconstructing 30,126 ft. of concrete duct bank

- Installing new tunnel lighting system
- Replacing pumping equipment
- Rebuilding two circuit breaker houses
- Building a substation

No service between 8 Av and Bedford Av

service during tunnel closure

L service operates between Bedford Av and Rockaway Pkwy

BUSHWICK AV

QUEENS

MANHATTAN

BROOKLYN

NYC
What Informed Our Planning Process?

Input from over 40 community meetings

Most frequent comments:
- Buses need dedicated lanes
- Provide multiple options, including ferry
- Simple, direct inter-borough bus routing, connecting to subways
- Bike lanes should be physically separated
- Street treatments should take emergency vehicle and delivery access needs into consideration
- Manhattan residents fear traffic spillover on narrow, mostly residential side streets
- Balance the needs of riders, residents and businesses.

Technical Analysis:
- Current travel patterns
- Traffic and transit modeling
- Testing of multiple scenarios.

AM Peak Hour
Canarsie Tunnel Destinations (Inbound)
2,000 1,000 500

Projected Travel Paths of Current L Train Riders AM Peak Hour
(Width of line corresponds to number of shifted riders)
Canarsie Tunnel Reconstruction

Our Strategy

- **Subway Service:** Increased subway levels on the GMJZ
- **Bus Service:** Three new interborough bus routes and new M14 Select Bus Service
- **Ferry Service:** between Williamsburg and E 20 St
- **Station Access and Capacity Improvements**
- **More Bike and Pedestrian Infrastructure**
- **Peak Period Traffic Management Strategies**

Travel Options between Manhattan and Brooklyn

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**ZONE 1**
- Canarsie Tunnel Reconstruction
- Subway Service: Increased subway levels on the GMJZ
- Bus Service: Three new interborough bus routes and new M14 Select Bus Service
- Ferry Service between Williamsburg and E 20 St
- Station Access and Capacity Improvements
- More Bike and Pedestrian Infrastructure
- Peak Period Traffic Management Strategies

**ZONE 2**
- Subway Service: Increased subway levels on the GMJZ
- Bus Service: Three new interborough bus routes and new M14 Select Bus Service
- Ferry Service between Williamsburg and E 20 St
- Station Access and Capacity Improvements
- More Bike and Pedestrian Infrastructure
- Peak Period Traffic Management Strategies

**ZONE 3**
- Subway Service: Increased subway levels on the GMJZ
- Bus Service: Three new interborough bus routes and new M14 Select Bus Service
- Ferry Service between Williamsburg and E 20 St
- Station Access and Capacity Improvements
- More Bike and Pedestrian Infrastructure
- Peak Period Traffic Management Strategies
Travel Alternatives in Manhattan and Brooklyn

**Fix & Fortify SANDY RECOVERY WORK**

**Canarsie Tunnel Reconstruction**
Bus and Ferry Travel Alternatives

Canarsie Tunnel Reconstruction

Key

- Late Night: M14 SBS & L1 combined
- Grand St – 1 Av/15 St: L1
- Grand St – SOHO: L2
- Bedford Av – SOHO: L3
- Ferry: SBS
**Fix & Fortify**
*SANDY RECOVERY WORK*

**Canarsie Tunnel Reconstruction**

**Street Treatments**

**Proposed**
- **Williamsburg Bridge**: Buses, Trucks & HOV 3+ Only
- **Busway**: Buses & Local Access Only
- **Bus Priority**:  
- **Protected Two-Way Bicycle Path**:  
- **SBS Route & Stop**:  
- **Shuttle Route & Stop**:  

**Existing**
- **Bus Lane**:  
- **Protected Bicycle Path**:  

*Williamsburg Bridge*
- Buses, Trucks & HOV 3+ Only
- Manhattan-Bound & Brooklyn-Bound
- Peak Hours (Hours Under Development)
Canarsie Tunnel Reconstruction

14th Street Busway

**Busway Hours**
- Buses and local access only
- Peak hours
- Hours under development

**Busway Access**
- Yes:
  - Buses
  - Access-a-Ride vehicles
  - Emergency vehicles
  - Local delivery vehicles
  - Cars accessing private garages
- No:
  - Taxis/other for-hire vehicles
  - Private cars
  - Through trucks

**14th Street Design Elements**
- Temporary pedestrian area
- Bus lanes with passing lanes at bus stops
- Loading zones
- Temporary bus boarders at bus stops

**EXISTING**
- 14th Street Design Elements
  - Temporary pedestrian area
  - Bus lanes with passing lanes at bus stops
  - Loading zones
  - Temporary bus boarders at bus stops

**PROPOSED**
- 14th Street Design Elements
  - Temporary pedestrian area
  - Bus lanes with passing lanes at bus stops
  - Loading zones
  - Temporary bus boarders at bus stops

**14th Street Traffic Volume & Bus Ridership by Hour of Day**
- Traffic Volume
- Projected Ridership
- Existing Ridership
**Why 3rd Ave?**
- Increases westbound bus speed/reliability at 1st Av
- Reduces pedestrian conflict at Vision Zero priority intersections
- May ease traffic demand on Ave C

**14th Street Busway**

- Westbound:
  - Third Avenue to Ninth Avenue
- Eastbound:
  - Eighth Avenue to Third Avenue

**Dedicated Bus Lanes**
- Westbound: First Avenue to Third Avenue, Eighth Avenue to Ninth Avenue
- Eastbound: Third Avenue to First Avenue

**Analysis of Design Options**

DOT evaluated the following options:

- **Existing Conditions**
- **Do Nothing (L train closes, no bus priority)**
  - Does not allow for fast, reliable bus service
- **Short Busway (Third Avenue to Sixth Avenue)**
  - More effects on traffic network than in longer busway option
- **Busway (Third Avenue to Eighth/Ninth Avenues)**
  - Balances very heavy bus and pedestrian volumes with side street general traffic

Standard Select Bus Service bus lane design was eliminated because it does not accommodate additional pedestrian space on the busiest blocks of 14th Street.

**Why Eighth/Ninth Avenues?**
- Provides bus priority to busiest 14th Street bus stops
- Additional effects on corridor traffic are marginal
- Allows for expansion of pedestrian space & loading zones

**Why Third Avenue?**
- Increases westbound bus speed/reliability at 1st Av
- Reduces pedestrian conflict at Vision Zero priority intersections
- May ease traffic demand on Ave C

**Person-Hours of Delay**

AM Peak Hour Pedestrian Volumes: Existing Conditions

- All scenarios will lead to increased travel times on side streets near 14th Street
- Busway Plan leads to some traffic shifts but diverts more through trips to other routes

**Person-Hours of Delay AM Peak: All East-West Streets**

- Busway Plan delivers faster bus travel times on 14th St
- Significant increases of up to 2x expected during L train shutdown

**Person-Hours of Delay PM peak: All East-West Streets**

Busway Plan offers the least overall delay to all street users
Bicycle volumes expected to increase 200-400% during L train shutdown.

13th Street Design Elements:
- Protected two-way bicycle path on south curb
- General traffic lane
- Parking lane

13th Street Two-Way Bike Path

Canarsie Tunnel Reconstruction

13th Street Design Elements

- Proposed Protected Bike Lane
- Proposed Shared Lane
- Existing Protected Bike Lane
- Existing Standard Bike Lane
- Existing Shared Lane
The Williamsburg Bridge provides the most direct connection for many customers who rely on the L train. L1, L2, and L3 buses across the bridge will need to move 30,000+ daily passengers. Fast, reliable bus service isn't possible under current traffic conditions, so DOT has developed a plan to prioritize buses on the bridge.

**Without Bus Priority**
- Buses will be stuck in traffic and not be a reliable travel option
- Highly variable travel times across Williamsburg Bridge: 10-40 minutes
- Significant crowding on J/M trains
- Some transit riders will shift to for-hire vehicles, adding to existing congestion

**Making the Plan Work**
- **Enforcement:**
  - Standard NYPD enforcement
  - Automated enforcement under consideration
- **Travel Information & Policy:**
  - City/MTA will facilitate carpool & other alternatives
  - Go Smart program to communicate travel options to affected commuters

**Doing nothing is not acceptable.**
HOV 3+ restrictions are necessary to reduce traffic volume enough to make a bus lane work on outer deck.

- Outer Deck: Buses, Trucks & HOV 3+ right turns at Clinton St
- Inner Deck: HOV 3+ Only

Bus, truck and HOV 3+ only restrictions in Brooklyn bound direction ensure that buses can make reliable round trips.

- Outer Deck: Buses (L1 & L2), Trucks & HOV 3+ to Borinquen Pl (Grand St)
- Inner Deck: HOV 3+, Trucks & L3 buses

Projected Results of Bus Priority Plan:

- Buses move quickly & reliably
- Trains & stations crowded but manageable
- Ferry capacity meets demand
- Traffic shifts to other East River bridges

Why not just install bus lanes on the bridge?

- Outer deck of Williamsburg Bridge is just one functional lane when buses/trucks are present
- Shifting 2,200+ cars to inner deck to create outer deck bus lane would spill traffic onto local streets
**Summary of Proposals**

- Enhance eastbound bike route on Grand St to protected
- Enhance westbound bike route on Grand St to curbside with a buffer
- Create alternative bike route on Devoe St in westbound direction
- Provide north/south connections on Union Av and Morgan Av
- Continue to develop Bushwick bike network with additional routes

**How to Make Grand Street Work**

- Traffic traveling eastbound from the Williamsburg bridge offers a variety of options for turning off Grand Street
- Westbound traffic should use Metropolitan Avenue to access the bridge
- Further analysis of traffic and curb regulations on Grand Street, Metropolitan Av, and adjacent cross streets is ongoing

**Williamsburg Bike Network**

- Provides a safe bike facility eastbound and westbound
- Allows for fast and reliable bus service
- Offers curb access for loading
- Through truck and general traffic will be diverted at key intersections
- Local bus service on Grand Street will remain
- Treatments at turning locations under development

**LEGEND**

- Bus only (through traffic diverted to other streets)
- Bus only lane
- L train shuttle routes (L1 and L2)
- Bike Lanes
- Alternate routes
Prior to the tunnel closure, we are improving access to and capacity in stations along the G, J, M and Z lines, that will provide alternatives to L service. During the tunnel closure, we will also enhance stations along the L line.
**Fix & Fortify**

**SANDY RECOVERY WORK**

**Canarsie Tunnel Reconstruction**

**Union Sq. West & University Pl.**

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**BENEFITS**

- Enhance Pedestrian Circulation and Safety at Crossings
- Strengthen Bike Connection from Broadway
- New Bike Parking Hub
- New Curb Regulations to Support Deliveries and Pick-up/Drop-offs
- Additional 19,000 SF of Public Space

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**EXPANDED PUBLIC SPACE**

- TO IMPROVE PEDESTRIAN CIRCULATION

**‘SERVICE LOOP’**

- MAINTAIN CIRCULATION FOR DELIVERIES, PICK-UP/ DROP-OFF, FARMERS MARKET TRUCKS

**BIKE PARKING FACILITY**

- EXPAND BIKE PARKING OPTIONS
  - MORE BIKESHARE?
  - MORE RACKS?
  - SECURE BIKE PARKING?

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**PEDESTRIAN CIRCULATION IMPROVEMENT**

**POTENTIAL LOCATION FOR CITI BIKE VALET SERVICE**
Canarsie Tunnel Reconstruction

Delancey Street and Allen Street

- Allows for reliable bus service
- Provides a safe bike facility with direct connections between Williamsburg Bridge, Allen St. and Chrystie St.
- Makes crosstown connections simpler and safer
- Painted median extension for safer pedestrian crossings
- Further analysis of traffic and curb regulations ongoing