



**Category: Information Communications
Technology (ICT) Innovations**

Project: 511 NY

**State Agency: New York State
Department of Transportation**



511 NY
Keeping New York Moving

Prepared by CIO/OFT on Behalf of
The New York State Department
of Transportation - 511NY



B. Executive Summary

511NY is a free, comprehensive transportation portal that provides travelers via phone, web (www.511ny.org), and e-notification systems, with up-to-the-minute travel information from across New York State. 511NY is customer-driven and strengthens efforts to enhance transportation safety, improve mobility, and allow people and goods to move efficiently through New York State. With 511NY, travelers can make better informed choices about travel by avoiding congested areas, carpooling or using mass transit, reducing highway congestion thereby improving air quality, and increasing mobility.

New York has collaborated with neighboring states and Canadian Provinces to develop an integrated and holistic approach to transportation management and reporting which directly benefits travelers. The 511NY website includes a first of its kind, comprehensive statewide transit trip planner that includes 50 operators' fixed route transit schedules from across New York, including subways, buses, ferries, commuter bus and rail, Amtrak, and other intercity bus lines, in addition to schedules for services provided between Connecticut, New Jersey and New York.

511NY integrated disparate databases of travel condition information into a **single public source for multi-state, real-time and static highway and transit information, as well as the coordination of information for call transfers, highway data points, voice recordings, and modal information.** To spur innovation for development for travel information, NYSDOT released a number of data feeds for open source use through a Developer Forum on the 511NY page (<http://www.511ny.org/developer.aspx>).

As part of the state's Empire 2.0 strategy- a New York State social media networking initiative designed to expand the state's ability to share information with social media users, **511NY has leveraged Facebook, Twitter, YouTube and Flickr to expand its network and communication among travelers.** Twitter feeds automatically disseminate highway construction, winter road conditions, incident information statewide, by region, as well as for Connecticut and New Jersey. Incident and construction event information for the NYC subway system is available as well.

To date, **511NY has received 863,808 phone calls and more than 1 million web visits.** *731 people "Like" 511NY on Facebook.* There are currently **1,110 Twitter followers statewide; 3,100 followers of feeds** regarding the New York City subway systems, and another **2,665 who follow travel information from the Port Authority of NY/NJ**, a major transportation partner in the metropolitan region of New York.

511NY is directly aligned with New York State strategic priorities to make information available, visible, accessible and understandable; and with several of NASCIO's State CIO Top Priorities including: Budget and Cost Control; Consolidation; Shared Services; GIS, Business Intelligence and Business Analytics; and Social Media and Networking.

C. Description

The 511NY comprehensive travel information system is geared to meet the multimodal needs of commuters, long-distance and local travelers, tourists and commercial vehicle operators. Up-to-the-minute transportation information is available to customers through this new 511 phone, web and e-notification system which strengthens NYSDOT's efforts to enhance transportation safety and improve mobility, allowing people and goods to move efficiently through New York State.



The project involved the integration of five disparate databases of real-time transportation conditions:

- 1) TRANSCOM database that covers the metropolitan New York City area, which includes portions of New Jersey and Connecticut;
- 2) NITTEC database that covers western NY and into Ontario, Canada;
- 3) NYSDOT's Transportation Management Centers' CARS IEN system;
- 4) NYS Thruway Authority's CARS system;
- 5) NYSDOT's Winter Travel Advisory database that is used to report snow and ice conditions on state highways throughout New York State

Prior to 511NY, these five systems operated independently, making it necessary for travelers to visit five different sources to obtain comprehensive travel information. Today they are integrated into a single public source for multi-state, real time and static highway and transit information, as well as the coordination of information for call transfers, highway data points, voice recordings, and modal information.

511NY is accessible by phone, Internet, and mobile devices and leverage modern social networking tools like Facebook and Twitter.

Problem

In June 2006, prior to the implementation of 511NY, heavy rain caused significant flooding, infrastructure damage, and impassable roads across much of New York State. NYSDOT quickly realized the information on the extent of damage to the transportation infrastructure was available internally, but the ability to convey this information to the traveling public was troublesome. While travelers had access to information sources for roadway condition through news networks and the Highway Advisory Radio, it was difficult to inform travelers that central New York State roadways suffered significant

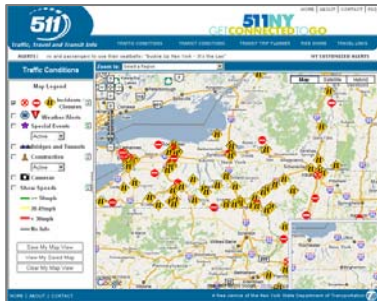
damage from the unprecedented rainfall and would be closed for several days until the water receded and infrastructure repairs could be made.

This event mobilized NYSDOT management to commit resources necessary to implement a comprehensive system through the 511 traveler information number, which NYSDOT had secured the administrative rights to in 2001 after the Federal Communications Commission (FCC) designated 511 as a national traveler information telephone number.

Solution

The implementation of a 511 system in New York State provided an outlet for official travel and roadway conditions in the State. 511NY was activated in the New York metro area in November 2008, and expanded statewide in June 2009.

The successful system implementation hinged on participation and cooperation from transportation partners that operate systems in New York State, including some that NYSDOT has no jurisdictional control. There are a number of autonomous agencies in New York responsible for transportation infrastructure and that provide transportation services, which are transparent to citizens and visitors. Significant outreach to transportation system operators, neighboring states, Canadian Provinces, regional coalitions, and transportation system management organizations was essential to obtain support for comprehensive travel information provided through 511NY.



NYSDOT integrated existing databases, used by the Transportation Management Centers (TMCs) for operations purposes, into automated feeds that allowed information to be expanded and disseminated through a number of additional sources, including telephone and e-alerts, and made available to the public. The TMCs have staff that monitor and provide system condition information, with highway condition information received from police and

transportation officials, motorist assistance patrol drivers, 911 calls, construction crews, traffic cameras and roadway sensors. Transit information is provided by public transportation agencies and authorities in the lower Hudson Valley, New York City and Long Island areas. Weather conditions are provided via NYSDOT's Winter Travel Advisory service, which collects real-time roadway conditions from plow operators during their shifts to report to the public during inclement winter weather.

In addition to the attributes mentioned above, the 511NY website also provides travelers with customized pages for traffic and transit condition information, rideshare resources for commuters and employers, and relevant resources for specific users of the transportation community, including bicyclists, tourists, and commercial vehicle operators.

NYSDOT also partnered with the New York State Emergency Management Office (SEMO) to handle the dissemination of TransAlert e-mail and text notifications via NY-Alert, SEMO's All Hazards Alert and Notification. As a result, costs to administer the e-

alerts were reduced significantly and the NY-Alert system can send out over 100,000 e-mails per minute. A web crawling alert ticker can also be used to notify travelers of large-scale emergencies on the 511NY website.

In June 2009, with the assistance of a marketing consultant, NYSDOT enhanced the 511NY offerings by implementing the automated Twitter feeds to disseminate the highway and transit incident information. The 511NY Twitter page (<http://twitter.511ny.org/>) also links to the external PATH feeds. Twitter users can elect to follow any or all of the feeds and have the option to have the information updates sent to their mobile devices. While 511NY already had e-notification TransAlerts available for travelers to subscribe to, the Twitter feeds became more appealing and popular in the tech-savvy New York City metropolitan region. The 511NY Twitter feeds have proven to be very popular among the transit users and warranted a comment on the blog Gawker, as "...the first non-stupid use of Twitter thus far."¹ The automated process for monitoring the incident updates from 511NY, shortening the message to meet the 140 character limit for Twitter and posting them to the appropriate feed has generated some interest nationally as a model to use for establishing low-maintenance Twitter feeds, as opposed to a manual entry into Twitter for incident information dissemination.

To further support innovative development for travel information, NYSDOT released a number of data feeds for open source use through a Developer Forum on the 511NY page (<http://www.511ny.org/developer.aspx>). These feeds include real-time highway incident and construction information, 800+ CCTV highway cameras, bridge and parkway restriction information for commercial vehicles, and a number of transit operator's schedule data. Prior to 511NY and the availability of the integrated databases, third party transportation information providers had to 'data scrape' from a number of non-coordinated, non-comprehensive sources with varying quality control. In addition to being able to use the data in the Developer Forum for more than just end-user applications, information received from the single 511NY source is more complete, accurate and up-to-date, and the ability to provide that information in a one-stop portal is more beneficial to travelers. Google maps recently began integrating incident information from the 511NY data feeds into their Traffic page, enhancing our ability to reach commuters and travelers through a number of sources.

Leveraging these existing databases, information sources and structured entry points, 511NY dramatically reduced 511NY implementation costs.

D. Significance

The information provided to travelers through 511NY is real-time, available in one location and allows volumes of information available to the public, and strengthens

¹ From blog Gwaker commenter named "DahleLama" on Mon, 27 Jul 2009, "I think this is the first non-stupid use of Twitter I've heard thus far."

efforts to enhance transportation safety, and improve mobility, allowing people and goods to move efficiently through New York State. The result is a system that promotes sustainability by providing information that expands transportation choices and encourages the use of more efficient methods of travel.

The system is also a critical, single-point information source during transportation emergencies. Floodgate messages can be custom recorded and programmed into the phone system at any point in the call menu structure. The use of Verizon's Enhanced Call Routing (ECR) platform provides the ability to handle multiple calls simultaneously with better call transfer management, and affords the system an additional option for floodgate messages, playing a short message for callers in lieu of a busy signal when call volumes are particularly high due to a widespread high-impact incident.

Innovative efficient system design and cost saving measures implemented by 511NY have been received very positively by the Governor's Office of Taxpayer Accountability and are anticipated to be shared with other NYS agencies operating call centers and phone services.

Additionally, 511NY has been identified as a "National Model" for other states to use who have yet to implement a system, and for those who are upgrading their existing systems, due to the focus on multi-modal integration and regional interoperability. NYSDOT has also been asked to share with other states and transportation partnership coalitions their experience using automated Twitter feeds and how other agencies can implement similar measures as a cost-saving and pragmatic marketing opportunity in the current economic climate. NYSDOT also uses Facebook to reach travelers and educate them about 511NY features and benefits.

511NY is closely aligned with several of NASCIO's State CIO Top Priorities including: Budget and Cost Control; Consolidation; Shared Services; GIS, Business Intelligence and Business Analytics; and Social Media and Networking.



E. Benefits of the Project

NYSDOT's mission is to ensure customers - those who live, work and travel in New York State -- have a safe, efficient, balanced and environmentally sound transportation system. The 511NY system provides timely, useful, high quality, comprehensive, readily available and accessible multi-modal travel information to travelers, including vehicle and transit commuters, commercial vehicle operators and freight carriers, tourists, and transportation system operators, from within and around New York.

511NY is groundbreaking in bringing together a multitude of transportation information available in New York State in one easy-to-use portal. With 511NY, there is no longer a need to track multiple, disparate phone numbers or websites. The system makes it easy to learn about and start using alternative transportation options, such as

carpooling, ride-sharing, buses, trains, ferries and more. 511NY helps to improve air quality, reduces the use of natural resources and increases mobility

511NY provides a number of benefits to the traveling public, as well as to NYSDOT and its partner agencies. Safety of travelers and road crews is increased, allowing travelers to make better informed choices about their travel modes in New York by avoiding congested areas, traffic jams, or highway incidents and repairs. In addition, emergency responders can reach the scene more easily and drivers who are stuck in congestion can get out faster.

Standardized performance measures and consistent metrics have been developed to track commuter and traveler behavior, response, change and overall results for 511NY. A few of the key outcomes include reductions in vehicle trips, VMT and emissions, as well as realized fuel and traveler cost savings (e.g., saved gasoline costs, vehicle maintenance costs).

511NY is customer-driven. It was designed to meet the current trend for receiving and obtaining travel information through mobile devices and in-vehicle navigation systems, providing open and standardized data sources helps meet this demand more quickly and without compromising other limited resources. Travelers expect real-time travel information available in a format that is useful to them and when they need it.

Open source data availability allows applications to be produced for consumer and business uses, including commuter applications, as well as data to support in-vehicle navigation systems, at no cost to NYSDOT. Developers who have requested access to data feeds began producing mobile device applications for users within 30 days of receiving the information.

The 511NY system integrates existing databases to convey traveler information via the IVR phone system, website and e-alerts, also provides a basis for an enhanced database for NYSDOT planning activities. An archive function in 511NY saves all of the condition information entered into the system, and provides NYSDOT with time stamped and geo-coded historical data required for highway and transit operational planning, federal reporting, and system analysis.

The 511NY data feeds are also being integrated in the University of Maryland's Center for Advanced Transportation Technology Laboratory (CATT LAB) Regional Integrated Transportation Information System (RITIS), an automated data sharing, dissemination, and archiving tool. RITIS automatically fuses, translates, and standardizes data obtained from multiple agencies, across multiple states in the region to provide an enhanced overall view of the region's transportation network as well as system performance metrics. As a result, RITIS improves transportation efficiency, safety, and security through the integration of existing transit and transportation management data along the I-95 Corridor.

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