

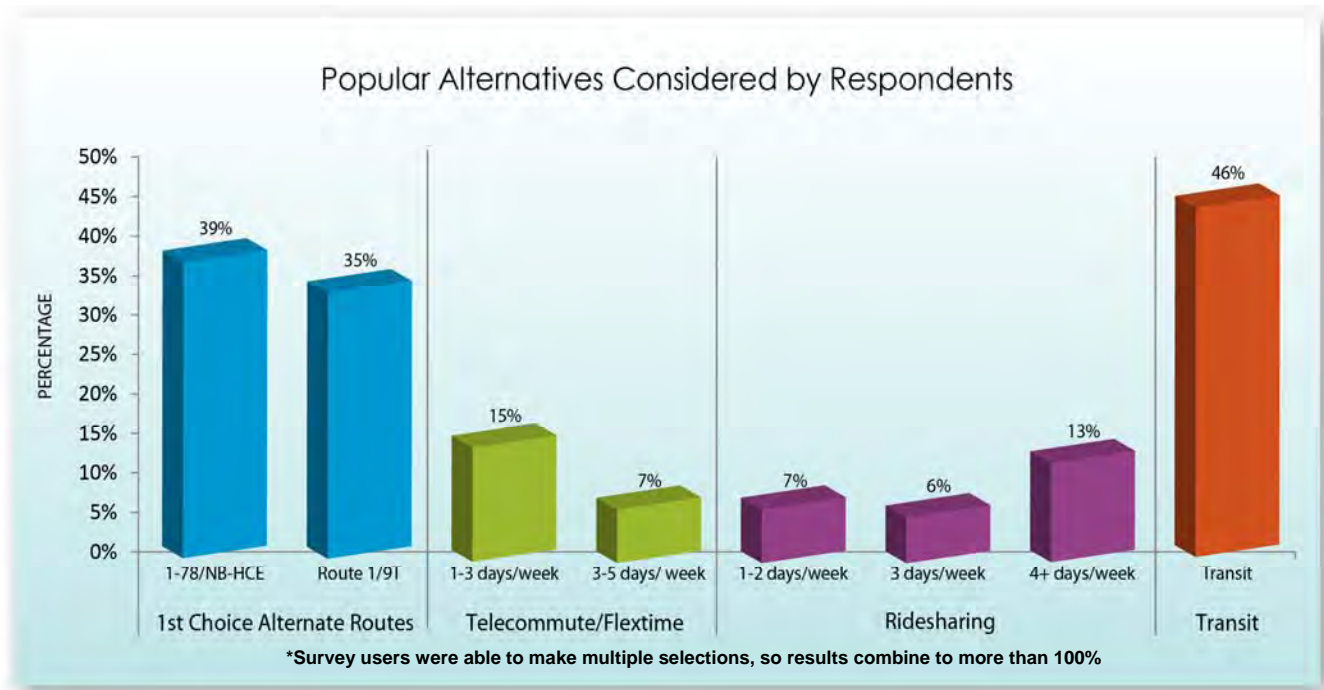
Introduction

Beginning in March 2014, the northbound travel lanes on the Route 1&9 Pulaski Skyway will be closed for approximately 24 months as the New Jersey Department of Transportation (NJDOT) rehabilitates the deck of the Skyway. Approximately 3,500 vehicles will need to be accommodated by alternate roadways or travel modes in the morning and 2,800 vehicles in the afternoon peak hours. In order to minimize traffic congestion during the construction, NJDOT is developing a Transportation Management Plan (TMP) which will implement a range of traffic mitigation measures. The TMP is being designed to address the travel needs of the users of the Pulaski Skyway.

To gain a better understanding of the traveler’s behavior and expectations of Skyway users, NJDOT conducted an online survey from January 10 to February 8, 2013. This survey provided very basic project-related information and was designed to elicit information about driver habits, initial reactions for commuting during Skyway construction, and the respondent’s existing feelings about and knowledge of public transportation. The results indicated that several options will be considered by current users of the Skyway.

Key Findings

Table 1 - Popular Alternatives Considered



The majority of Skyway users (approximately 85%) who responded were daily or almost daily commuters. In the morning peak period, the Jersey Waterfront areas were the major destinations, with 60% of respondents terminating their trip in Hudson County. Approximately 18% of the trips were destined to New York. This concentration of destinations provides a strong target for advertisement and marketing materials related to the project.

The survey revealed the attitude of respondents toward mode or route shift. As depicted in the table above, three-quarters of motorists selected Route 1&9T or the Newark Bay–Hudson County Extension (I-78/NB-HCE) as their first choice of alternate routes. Over 40% of respondents would consider public transit while telecommuting/flextime was an option for at least 22% of survey takers and carpooling/vanpooling was an option for 13% of respondents for 4 days or more a week.

Addressing the Needs

The information gathered through the survey, coupled with input from other stakeholders and agencies, drove the development of key strategies in the TMP to address the diversions from the Skyway as highlighted below.

Alternate Roadways

NJDOT plans to increase capacity at key locations and roadways expected to receive diverted traffic from the Skyway.

- The results reaffirmed the decision to partner with the New Jersey Turnpike Authority (NJTA) to provide an additional lane on the I-78/NB-HCE in the eastbound direction during the morning and afternoon peak periods.
- NJDOT will also be increasing northbound throughput capacity on Route 1&9T where possible by means of adaptive signals, restriping, and intersection modifications.
- NJDOT will provide Variable Message Signs (VMS) with travel times on alternate routes so motorists can make more informed decisions regarding route choices.

Transit

Enhanced and new rail and bus services under consideration include:

- Enhanced service on PATH
- NJ TRANSIT service enhancements on the Morris and Essex Line (M&E)
- NJ TRANSIT service enhancement on the Raritan Valley Line (RVL)
- NJ TRANSIT new express bus service on the Route 22 corridor
- Identification of additional capacity throughout the transit system

TDM Options – Telecommuting/Flextime and Ridesharing

Travel Demand Management (TDM) measures such as telecommuting, flextime, vanpooling and carpooling can lessen the peak period demand on area roadways.

- The Transportation Management Associations (TMAs) have committed to partnering with NJDOT to educate and encourage the public and businesses to consider alternate mode of travel and TDM options.
- NJDOT in collaboration with NJ TRANSIT will enhance the current vanpool program to provide a subsidy for Skyway users, which will be available for the duration of construction through the TMAs.
- The TMAs will work with major employers willing to offer staff telecommuting/flextime options.

The success of mitigating the diversions during construction will be highly dependent on effective communication of available options. The NJDOT is working with its partners to develop efficient and effective communication strategies to keep the public informed during the lane closure. NJDOT partners include the Port Authority of New York & New Jersey (PANYNJ), the North Jersey Transportation Planning Authority (NJTPA), NJTRANSIT, NJTA, 511nj, the TMAs, Hudson County, and the Cities of Jersey City, Kearny and Newark.

Survey Construction

The survey was targeted to current Skyway users and was advertised primarily through the use of VMS, the NJDOT website, and 511nj.org. Other advertisements were conducted via sites sponsored by the TMAs, the NJTPA, the local cable channel (JC1TV) and local municipal websites. Posters and brochures were also distributed by the TMAs and social media and email blasts were made by partner agencies and organizations.

The survey generated about 5,000 responses, with approximately 4,500 Skyway users, and the balance of respondents using other area roadways. Information on expected driver behaviors during the Pulaski Skyway Deck Rehabilitation, alternative travel routes and commuting strategies motorists might use during construction, data on travel patterns (origins and destinations of Skyway users), and preferred methods of communication during construction were gathered.

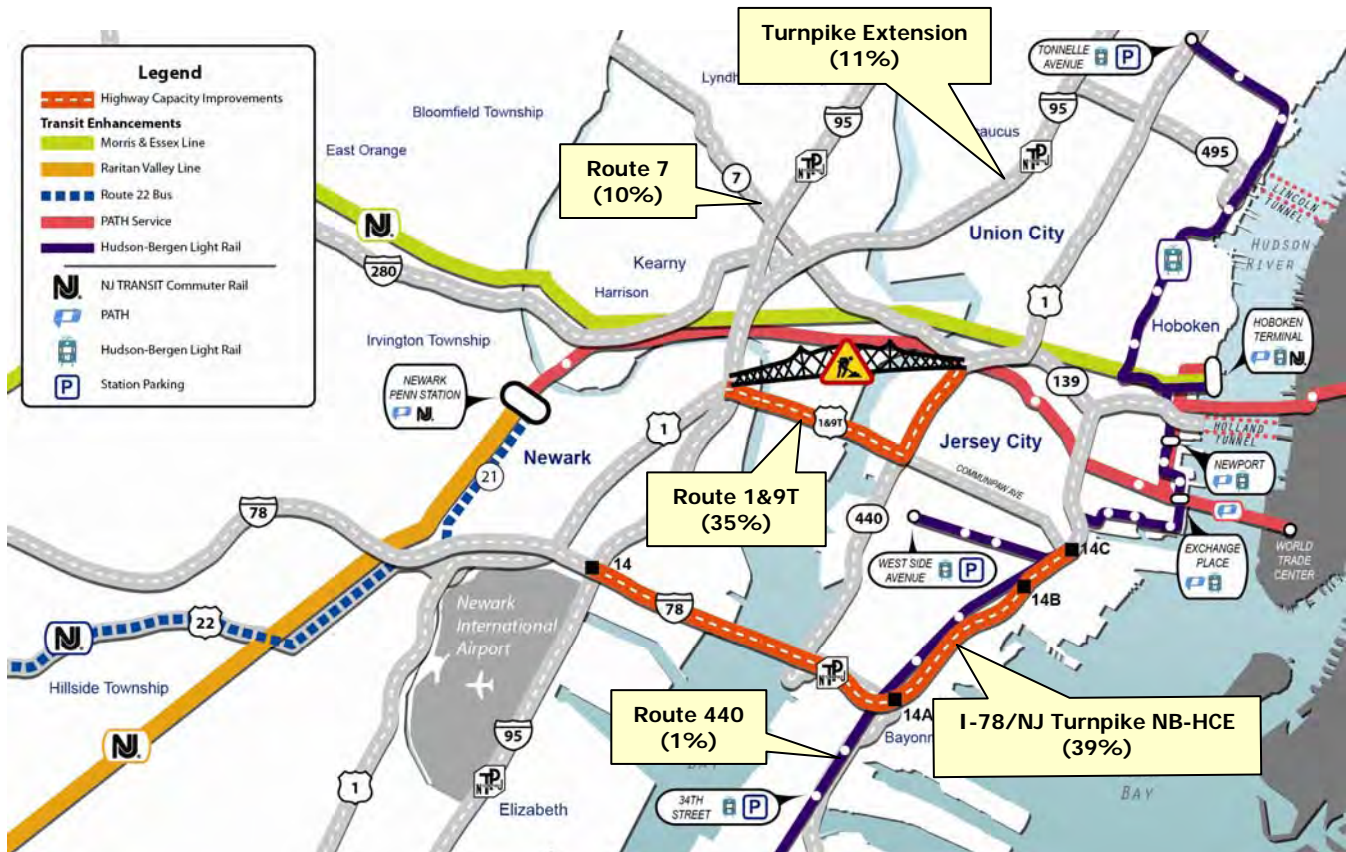
Although the survey was not a randomly selected sample and the results cannot be generalized to a broader population, the large number of respondents who participated from a wide geographic driving area gives confidence that the results are reflective of the general driving attitudes and habits of motorists in this area, primarily of work/school travel during the peak weekday commuting periods.

The following sections provide more detail on the survey findings and related strategies.

Alternate Driving Routes

NJDOT, along with partner agencies, have created a plan to absorb and disperse northbound trips. The survey confirmed that the majority of Skyway users (approximately 85%) are daily or almost daily commuters and that the majority of diverted trips will use alternative area roadways. Alternate routes are highlighted on Figure 1. The most popular alternative to the Skyway was the I-78/NB-HCE of the NJ Turnpike, with 39% of respondents listing this as their first alternate choice, and 77% selected it as one of their top three choices. This route has interchanges with Routes 1/9 and the NJ Turnpike and proceeds east to the Jersey City Waterfront area, terminating at the Holland Tunnel. The second most popular alternative route choice was Route 1/9T, with 35% selecting it as their first choice and 80% listing it as one of their top three alternate choices. Figure 1 also shows some transit enhancements that will be discussed in a later section.

Figure 1–Alternate Transportation Choices Selected by Respondents



The top two route options will receive a series of improvements, as highlighted in Figure 2 to manage the anticipated increased demands.

I-78/NB-HCE

Currently, I-78/NB-HCE only carries two lanes eastbound, but as a result of the early diversion analysis, NJDOT and NJTA have entered into an agreement for the NJTA to provide an additional eastbound lane from Interchange 14 to 14C in the shoulder during both peak periods on the I-78/NB-HCE. This additional travel lane will be available for use in time to coincide with the Skyway construction and will help the I-78/NB-HCE accommodate the additional volume expected when the Skyway is closed in the northbound direction. The survey results confirmed that this strategy is warranted, as 39% of drivers selected this as their first choice alternate route.

Route 1/9T

In order to accommodate the additional influx of vehicles, NJDOT plans to make a series of improvements to the Route 1/9T corridor from Route 1/9 to the Tonnelle Circle.

- The ramp from Route 1/9 to Route 1/9T will be widened from one lane to two lanes.
- The traffic signals will be optimized to favor the northbound direction and provide more green time to increase the northbound throughput at signals.

- Minor geometric changes will be made at Communipaw and Newark Avenues to enhance flow.
- A series of signals along the corridor will receive adaptive signal control. This system will use real-time traffic information to reduce congestion by determining which light should be red and which should be green for improved coordination.
- To help maintain the Route 1/9T corridor as a successful alternate route, NJDOT has committed to clearing drainage grates to alleviate minor flooding issues.

Figure 2 - Key Roadway Capacity Strategies



Alternate Public Transit

Just under half (46%) of respondents will consider switching to public transportation. Of those willing to switch, the two most popular alternatives were PATH service and the Morris and Essex (M&E) rail line. NJ TRANSIT reviewed the survey results and determined that a sufficient number of respondents had high enough Origin-Destination pairs to warrant enhanced/new transit service in three areas. As a direct result of the survey, NJ TRANSIT will increase rail service on the Morris and Essex Lines and will enhance service on the Raritan Valley Line. Efforts are under way to enable NJ TRANSIT to add express bus service on the Route 22 Corridor from Union to Newark.

Morris and Essex Line

An analysis of nearby roadways showed that 16% of northbound Skyway trips beginning in the I-78 and Route 24 corridor have destinations that are accessible by transit. As such, improvements at the origin

point were investigated to connect to transit at the end point of those trips. The M&E corridor was identified as having existing service to Hoboken where connections to Jersey City or New York City (NYC) are available via PATH or Hudson-Bergen Light Rail (HBLR). Additional rail service along this line to Hoboken could increase frequency and provide faster travel times (shown in Figure 1).

Route 22 Bus Service

Origin information gathered from the survey revealed numerous trips beginning in Somerset and Union Counties along the Route 22 corridor and Union/Springfield along Route 82. This prompted NJ TRANSIT to consider new bus service on Route 22 from Somerset/Union Counties into Hudson County. The Route 22 corridor accounts for 8% of eastbound peak period Skyway trips that have a destination in a transit accessible area. However, the area is too far from the M&E or Raritan Valley Line to be a viable rail option for drivers, particularly with parking constraints at most stations. NJ Efforts are under way to enable NJ TRANSIT to provide express bus service to Newark Penn Station, where connections to PATH and NJ TRANSIT rail service is available. This route would provide access to Jersey City and NYC without adding to traffic on I-78/NB-HCE (shown in Figure 1).

Other Transit Options

NJ TRANSIT will examine whether there is additional demand on routes served by private carriers. Shuttle services from selected locations are also being considered.

Publicizing Transit Options

Most commuters (83%) are aware there is some form of public transportation available along their commuting route. NJDOT will work to emphasize the benefits of the existing options and the severity of the expected congestion. Motorists will be provided with the appropriate information so they can make informed decisions about utilizing the options available to them. NJDOT will prepare marketing materials to be distributed by the TMAs to educate motorists about transit options.

NJDOT in conjunction with NJ TRANSIT will publicize and educate the public about any new transit options formed. Information for all transit options will be available on NJDOT and TMA websites.

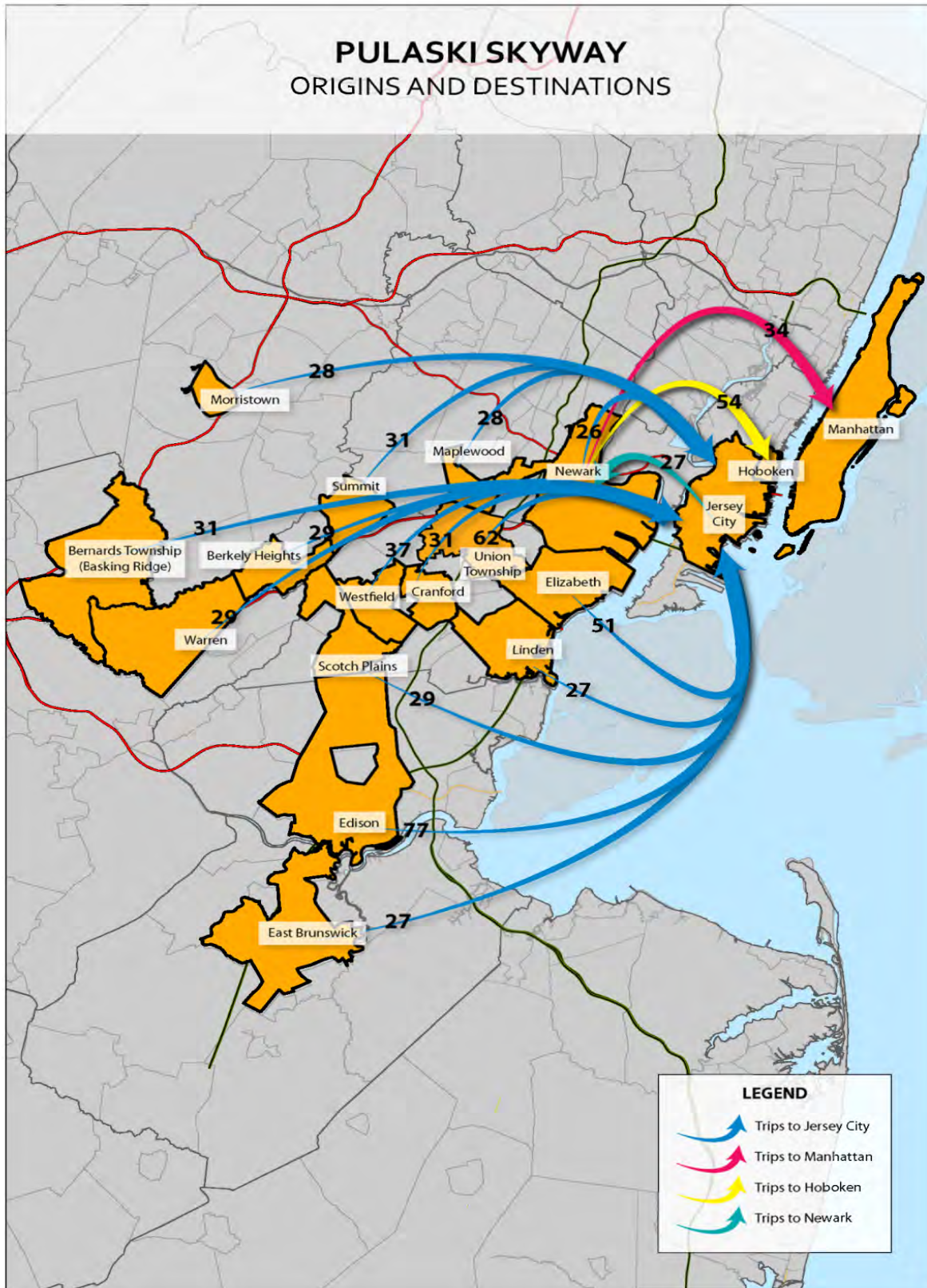
Travel Demand Management (TDM)

Several TDM strategies emerged as viable alternatives to automobile trips, including telecommuting/flextime, carpools/vanpools and Park and Ride. The role of the TMAs and their relationships with area employers will be crucial in TDM alternatives education, information and dissemination.

The survey revealed high origin-destination pairs (illustrated in Figure 3) for trips ending in Jersey City, Hoboken, Newark, and New York, with the highest pairs being:

- Newark-Jersey City (126 respondents)
- Edison-Jersey City (77)
- Union-Jersey City (62)
- Newark-Hoboken (54)
- Elizabeth-Jersey City (51)

Figure 3 - Origin-Destination Pairs with Over 25 Respondents



Ridesharing

Using this data as a starting point, NJDOT with the assistance of TMAs and NJ TRANSIT, will encourage the creation of new vanpools to these areas. NJDOT will provide an increased vanpool subsidy, increasing from the current \$175 to \$325 per month to fund ten new vanpools destined to or with origins for reverse commuting from these areas, beginning a few months before construction starts and ending a few months after the reopening of the Skyway.

The TMAs will work with large employers to identify employees living close enough together to carpool or vanpool and encourage ridesharing as much as possible. TMAs will also work with businesses to advertise and promote existing carpool and vanpool service. They will continue to publicize RidePro, which is a cost effective rideshare management tool, as a method of matching ridesharers.

Up to 37% of respondents would consider using a Park-and-Ride if a location was along their current route. Results also suggest that this option may be most attractive to those driving farther distances. To this end, NJDOT is investigating possible Park-and-Ride locations. As viable locations are identified, NJDOT will work with the TMAs to publicize the information.

Telecommuting/Flextime

The TMAs will be instrumental in the success of telecommuting and flextime as viable options. The TMAs are already working closely with several large employers in the Jersey City Waterfront area to encourage employees to either work from home or shift travel times. In addition, the TMAs will provide a seminar to explain telecommuting/flextime programs.

Next Steps

Some of the strategies listed above require further analysis as to viability of implementation. Those candidate strategies that move forward will be included in the final TMP and subsequently be monitored for success, and adjusted as necessary. The success of this plan will be dependent on each of the transportation agencies, the local communities and businesses working together in partnership to achieve the plan.

A major public outreach campaign will begin in the months preceding the beginning of construction to educate the traveling public of options and expected impacts.