

# NJ Transit River LINE Survey

March, 2013



# NJ Transit River LINE Survey

March, 2013



The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation,

promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the

diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

DVRPC fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. DVRPC's website (www.dvrpc.org) may be translated into multiple languages. Publications and other public documents can be made available in alternative languages and formats, if requested. For more information, please call (215) 238-2871.

# Table of Contents

	Exe	ecutive Summary	. 1
СН	AP	PTER 1	
	Sur	vey Conduct	. 3
		Introduction	3
		Route Description	3
		Survey Method	6
СН	A P Find	РТЕР 2 dings	. 9
		Origins and Destinations	9
		Boards and Alights	12
		Mode of Travel to and from the River LINE and Fare Type Used	13
		Customer Satisfaction and Demographics	17
		Conclusions	21

### Figures and Tables

Figure 1:	River LINE Service
Figure 2:	River LINE Origins
Figure 3:	River LINE Destinations11
Figure 4:	Weighted Boards and Alights12
Table 1:	Station Weights7
Table 2:	Top Ten River LINE Origins9
Table 3:	Top Ten River LINE Destinations9
Table 4:	Mode of Travel to the River LINE by Direction of Travel
Table 5:	Mode of Travel from the River LINE by Direction of Travel14
Table 6:	Transit Share of Commute to and from the River LINE15
Table 7:	How Often Do You Ride the River LINE?
Table 8:	Fare Type Used by Method of Purchase
Table 9:	How Often Would You Use a New Transfer Station Between the River LINE and the Atlantic City Rail Line?
Table 10:	Customer Satisfaction (as a percentage)
Table 11:	Age
Table 12:	Race
Table 13:	Employment
Table 14:	Household Size, Persons Employed Per Household, and Vehicles Available per Household20
Table 15:	Income

### Appendices

APPENI	DIX A
NJ	Transit River LINE Survey
	River LINE English Survey Instrument
	River LINE Spanish Survey Instrument A-3

## **Executive Summary**

This is the sixth in a series of surveys requested by NJ Transit. In fiscal year 2007, New Jersey Transit (NJ Transit) sought to update bus transit surveys that had been completed a number of years earlier. NJ Transit requested, through DVRPC's Regional Transit Advisory Committee, a comprehensive series of bus and rail surveys to update the data in the DVRPC region. NJ Transit requested these transit surveys to gather data about the riders on its rail and bus lines. Since it had been several years since the last survey, NJ Transit wanted to get "reacquainted" with its riders. From this need, an updated demographic profile of its rail and bus service was created. This survey will help with calibrating the regional travel demand model.

This survey was conducted November 17, 2010, on the NJ Transit River LINE between Camden and Trenton, NJ. The survey period was from the first train in the morning until 2:30 in the afternoon. This study used mailback surveys distributed on board trains to gather information regarding passenger demographics, satisfaction, and travel means, and to determine frequency and purpose of use. Passengers were encouraged to complete the survey and return it to the survey agent on board the train. However, if passengers could not complete the survey on board, they could just drop the postage paid completed survey in a mailbox.

On the day of the study, surveyors distributed approximately 2,500 surveys to passengers using the River LINE service, and 725 riders completed a survey and returned it to the survey agent on the train. An additional 540 surveys were returned by mail for a total of 1,265 usable surveys. This is approximately 24 percent of riders who used the River LINE during the survey period. The returned surveys were entered, cleaned, and coded. All entered surveys were then weighted by boarding station, by time of day, and by direction of travel.

Origins and destinations were mapped for 1,201 of the surveys. The River LINE provides an important link between north and south New Jersey, as well as between Philadelphia and New York City. The majority of riders, however, originate from towns in Burlington County.

The River LINE is an important link in the transit network in the region, with 16 percent of surveyed riders connecting to the River LINE from another transit service and with 38 percent of riders connecting to another transit service.

## Survey Conduct

#### Introduction

In fiscal year 2007, New Jersey Transit (NJ Transit) sought to update bus transit surveys that had been completed a number of years earlier. NJ Transit requested, through DVRPC's Regional Transit Advisory Committee, a comprehensive series of bus and rail surveys to update the data in the DVRPC region. NJ Transit requested these transit surveys to gather data about the riders on its rail and bus lines. Since it had been several years since the last survey, NJ Transit wanted to get "reacquainted" with its riders. From this need, an updated demographic profile of its rail and bus service was created. This survey will help with calibrating the regional travel demand model.

NJ Transit assisted in the design and conduct of these surveys, and also provided technical assistance in processing the results. The first transit survey, *NJ Transit Rail Customer Survey* (*DVRPC publication number 08064*), was conducted at the Trenton and Hamilton stations during spring 2008. The second transit survey, *NJ Transit South Jersey Bus Survey* (*DVRPC publication number 08065*), was conducted in fall 2008. A third survey, *NJ Transit Mercer County Bus Survey* (*DVRPC publication number 09052*), was conducted in winter and spring 2009. The fourth transit survey, *NJ Transit Camden County Bus Survey* (*DVRPC publication number 10034*), was conducted in spring 2010. The fifth transit survey was *NJ Transit Burlington County Bus Survey* (*DVRPC publication number 11018*), conducted in fall 2010.

The sixth of these requested transit surveys, *NJ Transit River LINE Survey*, was carried out on November 17, 2010, on NJ Transit River LINE service between Camden and Trenton, NJ. This study used mailback surveys distributed on board trains to gather information regarding passenger demographics, satisfaction, and travel means, and to determine frequency and purpose of use. Passengers were encouraged to complete the survey and return it to the survey agent on board the train. However, if passengers could not complete the survey on board, they could just drop the postage paid completed survey in a mailbox. NJ Transit also surveyed the River LINE several months after it began service in March 2004. This survey will help to determine the impact that the River LINE has had on ridership in the corridor and to determine ridership changes since opening.

#### **Route Description**

The NJ Transit River LINE service is a light rail service connecting the cities of Camden and Trenton, NJ, along the Delaware River. From north to south the service starts in Trenton at the

Trenton Transit Center, with connections to NJ Transit's Northeast Corridor rail service, AMTRAK rail service, SEPTA rail service, and NJ Transit and SEPTA bus service, and ends in Camden at the Entertainment Center. In Camden, the River LINE stops at the Walter Rand Transportation Center with connections to NJ Transit bus service to Philadelphia and South Jersey, and PATCO commuter rail service to Philadelphia and South Jersey destinations.

Figure 1 displays the River LINE and connecting transit services. The River LINE has 20 stops between Camden and Trenton and connects many of the river towns along the Delaware River. The River LINE provides service to the following towns: Pennsauken, Palmyra, Riverton, Cinnaminson, Riverside, Delanco, Beverly and Edgewater Park, Burlington, Florence, Roebling, and Bordentown.

Figure 1: River LINE Service



Source: DVRPC 2011

#### Survey Method

The goal of this project was to survey the entirety of the River LINE service, and more specifically, to survey every AM train in both directions along the line. This required a survey agent to ride a train from its origin to its final stop. Every train starting with the 5:56 AM train from Burlington north to Trenton and the 5:59 AM train south to the Entertainment Center in Camden through to midday had a survey agent on the train. In the afternoon about every third train had a survey agent on it, and the survey continued until about 2–3 PM. Surveying every train required staffing that DVRPC could not provide on its own and NJ Transit volunteered staff to complete the survey.

Over 2,500 surveys were distributed during the study, with 725 returned on board the train. A total of 1,265 usable surveys were returned, or about 51 percent of surveys distributed. On the day of the survey, NJ Transit conducted board counts at all stations along the River LINE, and during the course of the survey approximately 5,343 riders boarded the train. Survey agents were able to get a survey into the hands of 47 percent of riders boarding during the study period, and 24 percent of those riders returned a usable survey.

All returned surveys were manually entered and coded by DVRPC staff using the online service SurveyMonkey. This service was used because of the flexibility it provided in entry and the ability to have multiple staff entering data simultaneously and from multiple locations. SurveyMonkey's online data entry form resembled the paper survey to ease data entry. A unique identifying number was assigned to every survey, and that number was used as a unique identifier for each entered survey, thus preventing duplicate entries. After all the surveys had been entered, the data was downloaded as an Excel spreadsheet for cleaning and analysis. The data needed to be reviewed for errors and completeness. Entries were reviewed for consistency to ensure the quality of the data set. Spelling errors, entry errors, incomplete data, and nonsensical responses were removed. The clean data set was summarized at the station level and then by time of day.

Each survey asked for the time of day (hour, minute, and AM or PM) that the rider boarded the train, and all entered surveys were coded to one of two time periods for the day. Surveys were coded as: AM Peak if the rider boarded the train between 6 AM and 9 AM, or Off Peak if the rider boarded between 9 AM and 3 PM. Any surveys that had a time before the AM Peak or after 3 PM were also coded as Off Peak, as were any surveys that did not have a time entered. The direction of each rider's trip, northbound (NB) or southbound (SB), also needed to be determined and coded into the data set. Trips were coded as either northbound (NB) if they exited a station north of where they entered or southbound (SB) if they exited a station south of where they entered. For example, a rider boarding at the Walter Rand Transportation Center and exiting at the Trenton Transportation Center would have their trip coded as NB for northbound.

NJ Transit, for whom this work was completed, asked that the data then be weighted by three factors: boards by time of day, by boarding station, and by direction. Weighting the data adjusts for differences between the sample size and the actual ridership, permitting comparison with, and abstraction to, the data universe. The survey data needed to be weighted by boards by the time of day – AM Peak and Off Peak, direction – NB or SB, and boarding station.

Table 1 details the weighting for each station. Board counts by station were conducted by NJ Transit on the day of the survey, and total boards per station were determined for Off Peak and AM Peak for both northbound and southbound runs. This total of boards per station per time period per direction was used to determine the weights for the data set. Weights were determined by dividing the total boards per station per time period per direction by the total entered surveys per time period. Please note that Trenton has no northbound weights as it is the northern terminus of the line, and the Entertainment Center has no southbound weights as it is the southern terminus. If a field below has zero, that means that no surveys were returned for that station and time period.

Station	NB Peak Weight	SB Peak Weight	NB Off-Peak Weight	SB Off-Peak Weight			
Trenton	0.0	4.26	0.0	4.3			
Hamilton Avenue	6.5	5.5	0.0	7.0			
Cass Street	27.5	11.9	40.5	5.6			
Bordentown	3.4	2.0	8.7	3.4			
Roebling	2.0	3.0	4.3	4.6			
Florence	2.3	2.4	7.0	7.7			
Burlington Town Center	3.4	3.5	12.0	8.5			
Burlington South	2.4	1.7	4.3	2.2			
Beverly/ Edgewater Park	2.3	2.5	8.1	8.5			
Delanco	2.5	3.0	4.5	9.3			
Riverside	2.6	2.6	7.5	4.5			
Cinnaminson	2.3	2.1	19.0	6.5			
Riverton	2.0	3.4	5.0	6.7			
Palmyra	1.7	2.5	34.0	31.0			
Pennsauken/Rt. 73	3.4	4.1	3.0	6.3			
36th Street	4.0	9.1	3.6	0.0			
Walter Rand	3.8	0.0	9.2	0.0			
Cooper Street/ Rutgers University	6.7	0.0	14.2	0.0			
Aquarium	0.0	0.0	0.0	0.0			
Entertainment Center	0.0	0.0	0.0	0.0			
Source: DVRPC 2011							

Table 1:	Station	Weights
----------	---------	---------

Weighting attempts to factor sample data to reflect a 100 percent count. Generally speaking, the smaller the weight, the larger the sample size, and conversely, the larger the weight, the smaller the sample size. A weight can never be less than one, as this would indicate that there were more surveys returned than there are people in the target population.

Weighting can be used to gauge participation in a survey. For Trenton station, for example, the southbound Peak Weight is 4.26, indicating that nearly one-quarter of Peak southbound riders from Trenton station returned a usable survey. Weighting can also be seen as the ratio of riders to returned surveys. Using Trenton station as an example, a ratio of 4.26 to 1 exists; for every 4.26 riders, one usable survey was returned during the Southbound Peak.

## Findings

#### **Origins and Destinations**

This section is a summary of the *weighted* results from the NJ Transit River LINE Survey. *The weighted data may not add exactly to 100 percent due to rounding.* 

Surveyed riders were asked to record their origin address, or nearest intersection, and destination address, or nearest intersection. Out of the 1,265 usable surveys, 1,201 responded with information that could be mapped to at least a zip code level. There were 1,074 addresses that were mapped at a street level, with 191 origins mapped only to a zip code. Figure 2 displays the origins of River LINE riders split by the direction of their trip.

What is not readily evident in the map is the amount of overlap of riders traveling in both directions originating between Trenton and the Camden center section of the River LINE. The origins of the River LINE are more dispersed than the destinations, as displayed in Tables 2 and 3.

0.19.110					
Origin	Riders	Percent			
Trenton	821	16			
Burlington	499	10			
Camden	498	10			
Willingboro	316	6			
Palmyra	244	5			
Delran	191	4			
Pennsauken	198	4			
Riverside	184	4			
Bordentown	155	3			
Cinnaminson	150	3			
Total	3,256	65			
Source: DVRPC 2011					

Table 2: Top Ten River LINE

Origins

#### Table 3: Top Ten River LINE Destinations

Destination	Riders	Percent			
Trenton	1,092	21			
Camden	915	18			
Philadelphia	839	16			
Burlington	449	9			
New York	209	4			
Florence	144	3			
Newark	123	2			
Palmyra	111	2			
Bordentown	84	2			
Riverside	80	2			
Total	4,046	79			
Source: DVRPC 2011					

Origins along the River LINE are more dispersed and not as concentrated as the destinations. The top 10 origins account for 65 percent of riders. Destinations, however, tended to be more concentrated in a few places, with the most popular destination being Trenton. The top 10 destinations accounted for 79 percent of all riders, with the top three accounting for over half of all riders with a 55 percent share. Figure 3 is a map of the destinations reported by riders surveyed.





Source: DVRPC 2011

Unlike origins, destinations tend to be more concentrated along the ends of the River LINE. Figure 3 displays the mapped destinations as reported by riders in the survey. Please note the large cluster of destinations in New York City, indicating the larger regional importance of the River LINE service.



Figure 3: River LINE Destinations

#### **Boards and Alights**

Figure 4 displays the weighted boards and alights for each station. The chart displays spikes in boards and alights at Trenton Transportation Center and at Walter Rand Transportation Center. This makes sense as both stations provide access to other rail and bus lines, such as NJ Transit's Northeast Corridor line in Trenton and PATCO in Camden. There are also more alights than boards at these two stations, indicating that these two stations are the destinations, or gateway to destinations further along, of many of the riders in either direction. Again, this makes sense due to the number of transit connections available at each station. The rest of the stations display a trend of proportionally more boards than alights. These stations are the origin stations for many of the riders traveling in either direction along the line.





There are, however, two stations that do not fit this pattern. Florence and Burlington Town Center have nearly the same number of boards as alights, with Florence actually having more alights than boards; similar to Trenton and Walter Rand. These two stations then also seem to operate like Trenton Transportation Center and Walter Rand Transportation Center in that they are drawing riders from other stations along the line. Burlington Town Center connects with NJ Transit bus route 413 and is a gateway to the center of Burlington County. NJ Transit route 413

Source: DVRPC 2011

provides access to the Burlington County Courthouse, the Burlington Center Mall, and to Mount Holly, NJ. Florence, on the other hand, is surrounded by industrial and warehouse complexes in relative close proximity to the station.

#### Mode of Travel to and from the River LINE and Fare Type Used

The majority of riders using the River LINE either walked (1,761 riders reported that they walked) or drove (1,851 riders reported that they drove) to their boarding station, as can be expected of many suburban commuter rail services. However, the mode of travel differs depending on either the northbound or southbound direction of the rider's trip. This is partly due to different choices of arriving at the rider's station. For example, a rider can use NJ Transit's Northeast Corridor service to arrive at Trenton station for southbound trips or they can use PATCO to arrive at Walter Rand in Camden for northbound trips.

Table 4 details the mode of travel to a boarding station. Whereas nearly the same number of riders are traveling in both directions, the means of arriving at the River LINE vary by mode.

Travel Choice	Northbound	Southbound	Total
Walk	758	1,004	1,761
Bicycle	133	98	230
Car Drive and Park	847	1,003	1,851
NJ Transit Capital Connection	7	22	29
Carpool	171	220	391
Car-Drop Off	2	16	19
Taxi	4	43	46
NJ Transit Train	0	111	111
NJ Transit Bus	271	114	385
Other Bus	2	22	24
PATCO	252	8	260
Did not answer	66	16	82

Table 4: Mode of Travel to the River LINE by Direction of Travel

Source: 2011 DVRPC

Due to rounding columns may not total properly

Riders were more likely to have taken a bus to the River LINE if traveling north than if they were traveling south. There were 271 northbound riders who reported using a bus to arrive at the River LINE, while 114 southbound riders reported using a bus to arrive at the River LINE. Northbound riders were more likely to have taken transit to the River LINE than their southbound counterparts, while southbound riders were more likely to have walked to the River LINE than their northbound counterparts. No reason or cause is readily apparent to explain this difference. Obviously, PATCO has more northbound riders as it is on the southern end of the line, and the Northeast Corridor service has more southbound riders because it connects with the River LINE at the northern terminus, but other than that no explanation is available.

Table 5 shows that mode share for riders departing the River LINE did not display the same distinction between northbound and southbound riders. Most modes show an almost even or proportional split by direction. The one difference is bicycling; which can be explained by the River LINE policy of allowing cyclists to take their bicycle on the train – trains are equipped with hanging bike racks to accommodate bicyclists. In this case, those that rode a bike to the River LINE also rode their bike from the River LINE, which is an expected outcome and reflected by the data. There were 230 riders who reported using a bicycle to get to the River LINE and 223 riders who reported using a bicycle to leave the River LINE. Table 5 details the mode of travel from the River LINE as reported by the riders.

Nearly half of all riders walked to complete their trip upon exiting the River LINE, with 2,414 riders reporting that they had walked. This was the most popular means for riders to complete their trip. Transit was the next most popular means of travel from the River LINE, with a total of 1,968 riders using some form of transit to complete their trip that day. The most popular form of transit used upon exiting the River LINE was PATCO, which operates between Lindenwold, NJ and Philadelphia, PA. The destination data shows that the vast majority of riders using PATCO are traveling to destinations in Philadelphia. There were 687 riders who reported a final destination in Philadelphia and also reported using PATCO; a 94 percent share of all riders who transferred to PATCO from the River LINE.

Travel Choice	Northbound	Southbound	Total
Walk	1,178	1,236	2,414
Bicycle	128	95	223
Car Drive and Park	79	96	175
NJ Transit Capital Connection	38	40	78
Carpool	21	30	51
Car-Drop Off	13	12	25
Тахі	127	13	140
NJ Transit Train	485	4	489
NJ Transit Bus	293	248	541
Other Bus	37	64	101
PATCO	4	730	734
SEPTA	16	9	25
Did not answer	93	100	193

 Table 5:
 Mode of Travel from the River LINE by Direction of Travel

Source: 2011 DVRPC

Due to rounding columns may not total properly

There are a fairly large number of riders who report that they are using transit for the entire trip; to arrive at the River LINE and to complete their trip after exiting the train. Table 6, Transit Share of Commute to and from the River LINE, details how riders arrived and departed the River LINE by the form of transit they reported using. There were 325 riders who reported using transit for the

entirety of their commute, for a six percent share of all surveyed riders. Nearly half of these riders used a NJ transit bus to either start their trip (147 riders) or to complete their trip (145 riders).

	From River LINE					
To River LINE	NJ Transit Capital Connection	NJ Transit Train	NJ Transit Bus	Other Bus	PATCO	Total
NJ Transit Capital Connection	9 (3%)	2 (1%)	9 (3%)	0 (0%)	5 (2%)	24 (7%)
NJ Transit Train	4 (1%)	0 (0%)	17 (5%)	0 (0%)	9 (3%)	30 (9%)
NJ Transit Bus	18 (6%)	26 (8%)	72 (22%)	20 (6%)	11 (3%)	147 (45%)
Other Bus	0 (0%)	0 (0%)	15 (5%)	0 (0%)	0 (0%)	15 (5%)
ΡΑΤϹΟ	0 (0%)	61 (19%)	32 (10%)	8 (2%)	0 (0%)	109 (34%)
Total	31 (10%)	90 (28%)	145 (45%)	28 (9%)	32 (10%)	325(100%)

Table 6: Transit Share of Commute to and from the River LINE

Source: DVRPC 2011

Due to rounding columns may not total properly

Question 10 on the survey asked "How would you make this trip if the River LINE was not available?" This is an interesting guestion as the River LINE is only seven years old, which means in essence the rider is being asked how they made this trip before the River LINE was in service. Not surprisingly, 34 percent of riders reported that they would have driven alone to their final destination. Therefore, the River LINE may be credited with taking approximately 1,764 vehicles off the road every day. Additionally, 1,227 riders reported that they would have used a bus to make their trip.

Table 7: How Often Do You Ride the River LINE?

<b>Question Choices</b>	Total	Percent
5 or more days a week	3,599	69
4 days a week	518	10
1-3 days a week	496	10
1-3 days a month	219	4
Other	97	2
First time customer	56	1
Skipped Question	205	4
Answered Question	4,984	96
Source: DVRPC 2011 Due to rounding columns may not total		

properly

The majority of River LINE riders are riding four or more days a week. There were 4,117 riders who responded as using the River LINE four or more days a week, for a share of 79 percent of respondents. This finding would be consistent with guestion five which asked for the purpose of the day's trip. The majority of the riders reported that the purpose of their trip was commuting to work, with 3,244 riders responding they were going to work, for a 63 percent share of respondents. Also, 517 riders responded they were traveling to a college or technical school, for a ten percent share. These two options combined account for 73 percent of respondents.

Riders using the River LINE tended to use either a one-way ticket or a monthly pass. Riders using a one-way ticket accounted for 41 percent of respondents, with 2,129 riders reporting this fare choice. Riders using a monthly pass accounted for a 44 percent share, with 2,262 riders

using some form of monthly pass. Broken down by monthly pass type: 1,417 riders used a monthly River LINE pass (a 28 percent share), 454 riders used a bus monthly pass (a nine percent share), and 336 riders used a monthly rail pass (a six percent share).

Table 8 shows the fare type used cross tabulated with where the rider purchased the fare.

	Vending Machine	On Board Bus	Employer	Other	No Response	Total
One-Way ticket	2,061 (40%)	6 (.1%)	16 (.3%)	33 (.6%)	14 (.3%)	2,129 (41%)
Monthly River LINE pass	1,026 (20%)	9 (.2%)	176 (3%)	247 (5%)	13 (.3%)	1,471 (28%)
Monthly Rail Pass	141 (3%)	4 (.1%)	28 (.5%)	113 (2%)	50 (1%)	336 (6%)
Ten Trip Ticket	171 (3%)	0 (0%)	3 (.1%)	3 (.1%)	0 (0%)	177 (3%)
Bus Transfer	52 (1%)	54 (1%)	0 (0%)	7(.1%)	0 (0%)	113 (2%)
Bus Monthly Pass	99 (2%)	8 (.2%)	33 (.6%)	255 (5%)	59 (1%)	454 (9%)
Senior Citizen/ Disability/ Children	288 (6%)	9 (.2%)	0 (0%)	11 (.2%)	0 (0%)	308 (6%)
No Response	12 (.2%)	0 (0%)	9 (.2%)	5 (.1%)	175 (3%)	201 (4%)
Total	3,850 (74%)	90 (2%)	264 (5%)	673 (13%)	311 (6%)	5,189 (100%)

 Table 8:
 Fare Type Used by Method of Purchase

Source: DVRPC 2011

Due to rounding columns may not total properly

The majority of riders are purchasing their tickets from the vending machine located on the platform; 3,850 riders indicated that this is how they purchased their ticket (a 74 percent share). One-way ticket purchases accounted for more than half of tickets purchased at a vending machine, with a 53 percent share. The majority of riders responding "other" purchased their ticket at either the Walter Rand Transportation Center (250 riders) or the Trenton Transportation Center (130 riders). Tickets purchased from an attendant at a transportation center accounted for a 7 percent share of tickets purchased.

NJ Transit is constructing a new transfer station between the River LINE and the Atlantic City Rail Line in Pennsauken, NJ. Question 18 in the survey asked riders how frequently they would use this transfer station. Most riders indicated they would likely use the transfer station infrequently, one to three times in a year, or not at all. There were 1,532 riders, 30 percent of respondents, who indicated that they would likely only use the station one to three times a year, while 1,051 riders, 20 percent, indicated that they would never use this new station. However, about 31 percent of respondents indicated that they would use the new station anywhere between one to three days a month to once every two to three months. There were 815 riders who indicated they would use the new station one to three days a month, a 16 percent share. Riders who responded they would use the station once every two to three months accounted for a 15 percent share, with 801 riders choosing this option. Interestingly 724 riders indicated that they would be regular users of such a transfer, using the station one to five days a week, accounting for a 14 percent share of riders. Table 9 displays how often riders would be likely to use a new transfer station.

Table 9:	How Often Would You Use a New Transfer Station Between the River LINE
	and the Atlantic City Rail Line?

<b>Question Choices</b>	Total	Percent
1-3 times a year	1,532	30
Never	1,051	20
1-3 days a month	815	16
Once every 2-3 months	801	15
4-5 days a week	426	8
1-3 days a week	298	6
Skipped question	266	5
Answered question	4,923	95

Source: DVRPC 2011

Due to rounding columns may not total properly

#### **Customer Satisfaction and Demographics**

Question 19 in the survey asked the rider to rate their experience with aspects of the River LINE service. These aspects included: parking, boarding station, frequency of service, seating availability, on-time performance, personal security, travel time, fares, fare inspection, ticket vending machines, availability of transit information, quality of connections with other transit services, customer communication, and overall satisfaction with the River LINE. The range was from 0 indicating a poor experience, to 10 indicating a great experience. N/A, or not applicable was also a choice. Table 10 displays customer satisfaction of River LINE service.

Overall riders seem to be very satisfied with the service on the River LINE. Riders giving a score of eight of higher accounted for a 68 percent share of riders. Fares and travel time are the two areas in which the River LINE received the highest scores. Riders seemed very satisfied with fares, with 40 percent of riders giving fares the top score of 10, and 38 percent of riders gave the River LINE travel time the highest score as well. Three areas that did not score relatively as high as the others were: customer communication, personal security, and quality of connections with other transit services. Even in these relatively lower scored categories more riders still scored their satisfaction as extremely high with 21 percent of riders scoring customer communication a ten, 24 percent of riders scoring personal security a 10, and 24 percent of riders scoring the quality of connections with other transit service a 10.

	10	9	8	7	6	5	4	3	2	1	0	N/A	Skipped Question
Overall Satisfaction	31	19	18	10	4	3	3	2	1	1	1	0.2	8
Customer Communication	21	11	11	9	6	7	4	3	3	3	4	8	11
Quality of Connections with Other Transit Service	24	14	10	7	4	5	3	2	2	2	2	14	9
Availability of Transit Information	31	14	13	7	7	7	4	2	2	3	2	2	8
Ticket Vending Machines	30	15	12	9	5	6	3	3	1	2	1	6	8
Fare Inspection	28	12	12	8	5	10	4	3	3	4	2	1	8
Fares	40	14	12	7	4	5	3	2	1	1	1	1	8
Travel Time	38	18	13	8	4	5	2	2	1	2	1	0.3	7
Personal Security	24	11	14	8	5	10	4	3	3	3	4	1	8
On-time Performance	36	19	15	9	3	3	1	1	1	1	0	1	8
Seating Availability	25	13	13	9	7	9	4	5	3	2	2	0.5	9
Frequency of Service	36	14	15	7	4	7	2	2	1	1	0.2	0.3	10
Boarding Station	39	12	14	11	4	5	2	1	1	1	0.4	1	9
Parking	27	5	5	4	2	3	1	1	1	1	1	34	13

#### Table 10: Customer Satisfaction (as a percentage)

Source: DVRPC 2011

Due to rounding columns may not total properly

The survey asked a series of questions about the riders' demographic information: race, age, employment, household size, number of employed household members, number of vehicles available to the household, household income, and internet access.

Just over half of all riders were male, with 52 percent (2,696 riders) indicating they were male, and 47 percent (2,438 riders) indicating they were female.

The average age of a surveyed River LINE rider was 42 years old. This is three years older than the average of 39 years old found in the 2004 survey. Table 11 displays the age distribution of the survey. Nearly half of all riders reported being between the ages of 35 and 54; a 48 percent share. Riders between the ages of 45 and 54 accounted for 28 percent of riders, while riders between the ages of 35 and 44 accounted for a 20 percent share of riders. Riders under the age of 18 accounted for a one percent share of riders.

#### Table 11: Age

<b>Question Choices</b>	Total	Percent
Under 18	58	1
18-24	727	14
25-34	865	17
35-44	1,060	20
45-54	1,449	28
55-64	839	16
65 and older	155	3
Skipped Question	35	1
Answered Question Source: DVRPC 2011	5,154	99

Due to rounding columns may not total properly

The racial split of the riders is displayed in Table 12. It is interesting to note that there is a near identical proportion of African Americans and Caucasians riding the train. Each group accounted for a 40 percent share of riders. In 2004 there was a 57 percent to 34 percent split between Caucasians and African Americans, respectively. In 2004 all other races accounted for a 9 percent share of riders. In 2010 riders of Hispanic origin accounted for a 13 percent share of riders, while all other races account for a 10 percent share of riders.

Question Choices	Total	Percent
White	2,064	40
African American	2,053	40
Hispanic Origin	700	13
Multi-racial	367	7
Asian/Pacific Islander	153	3
American India/Native Alaskan	58	1
Other	23	0.4

Table 12: Race

Source: DVRPC 2011

Due to rounding columns may not total properly

River LINE riders are predominantly using the service to commute to and from work and school. Table 13 displays the reported employment of River LINE riders. A large proportion of riders (30 percent of riders) reported that they were management or in a professional position. Being a student or being a skilled/technical worker were the next most popular choices with 12 percent share of riders for each. A follow up question asked if the rider worked for the state of New Jersey, with 23 percent of riders indicating that they worked for the state of New Jersey.

#### Table 13: Employment

Question Choices	Total	Percent
Management/Professional	1,581	30
Student	635	12
Technical/Skilled	601	12
Clerical/Secretarial	463	9
Other	414	8
Non-Office Worker	363	7
Not Currently Employed	334	6
Sales/Retail	246	5
Retired	122	2
Homemaker	65	1
Skipped Question	366	7
Answered Question	4,823	93
Source: DVRPC 2011		

Due to rounding columns may not total properly

Table 14 details household size, persons employed per household, and vehicles available per household. Riders in general reported an average household size of 2.83 persons, having 1.48 persons employed per household, and having 1.42 vehicles available per household. Riders tended to report households of two, three, or four members, with these responses accounting for 25 percent, 20 percent, and 20 percent of riders respectively. The majority of riders reported having one or two workers in the household. There were 1,579 riders (30 percent) who indicated that there was only one worker in the household, while 1,703 riders (33 percent) indicated that two workers were present in the household. Households indicating that they had one or two vehicles available accounted for a 56 percent share of riders. Riders who indicated that they had no vehicle available accounted for a 21 percent share of riders.

Question Choices	Household Size	Persons employed per household	Vehicles per household
None	0 (0%)	475 (9%)	1,064 (21%)
One	657 (13%)	1,579 (30%)	1,428 (28%)
Тwo	1,306 (25%)	1,703 (33%)	1,478 (28%)
Three	1,012 (20%)	763 (15%)	564 (11%)
Four	1,053 (20%)	237 (5%)	226 (4%)
Five or more	831 (16%)	80 (2%)	80(2%)
Skipped Question	331 (6%)	352 (7%)	349 (7%)
Answered Question	4,858 (94%)	4,837 (93%)	4,840 (93%)

Table 14: Household Size, Persons Employed Per Household, and Vehicles Available per Household

Source: DVRPC 2011

Due to rounding columns may not total properly

The average household income of a River LINE rider is \$55,749, which is down \$2,251 from the 2004 survey. Table 15 details income as reported by River LINE riders. Households reporting an income under \$25,000 accounted for the largest share of respondents (a 21 percent share). Households with incomes between \$50,000 and \$74,999 accounted for the second largest share of riders at 11 percent. Only two percent of riders reported an income of \$200,000 and over.

Income Range	Total	Percent
Under \$25,000	1,109	21
\$25,000-\$34,000	596	11
\$35,000-\$49,000	436	8
\$50,000-\$74,000	858	17
\$75,000-\$99,000	594	11
\$100,000-\$149,000	576	11
\$150,000-\$199,000	173	3
\$200,000 and above	97	2
Skipped Question	749	14
Answered Question	4,440	86
Source: DVRPC 2011		

Table 15: Income

Due to rounding columns may not total properly

#### Conclusions

Origin and destination data shows the large geographic area that the River LINE opens up to people living between Camden and Trenton, NJ. The survey also points out that the River LINE is a vital link in our region's transit systems, allowing people to essentially travel from home to work by using transit entirely.

From the results of the survey, the following points can be made:

- > The majority of riders are originating in Burlington County and traveling either north or south.
- Trenton Transportation Center and Walter Rand Transportation Center are the two busiest stations along the route. These two stations provide access to other transit lines. Every other station along the line had more boards than alights except Florence and Burlington Town Center, indicating that these two stations are either destinations or transfer points to other transit service.
- The mode share of riders reaching the River LINE differed by direction. This was unexpected, and as such there is no clear reason as to why people traveling northbound would have such a difference in mode share than people traveling south.
- Transit is an important part of a rider's commute with the River LINE. Whereas 16 percent of all surveyed riders used some form of transit to reach the River LINE, 38 percent of riders took some form of transit to their final destination. There are also six percent of riders that

reported using transit for each leg of the trip. This indicates that the River LINE is an important link in the transit network for riders in the region.

- ▶ The majority of riders are riding four or more days a week (79 percent).
- Riders are predominantly purchasing their ticket, or pass, from vending machines (74 percent). Riders were generally quite satisfied with the machines as 57 percent rated the machines an eight or higher in terms of satisfaction.
- Overall rider satisfaction is very high, with 68 percent of riders rating the River LINE an eight or higher. Areas that were relatively rated lower were customer communication, quality of connections with other transit service, personal security, and seating availability. These scores were only lower in comparison to other River LINE service attributes, and were still consistently rated higher than five, which would be considered neutral or just satisfactory.
- The ethnic and racial demographics have changed since the last survey in 2004. The River LINE has become more diverse with African American riders increasing in proportion to 40 percent of riders, and riders of Hispanic origin also increasing to a share of 13 percent.
- Riders most likely identified themselves as: being employed as Professional/Management, 42 years old, having a household size of over two people, having one to two vehicles available, and a household income of \$55,749.

APPENDIX A



## NJ Transit River LINE Survey

### **River LINE English Survey Instrument**



200000000000000

+

Personal Security Travel Time Fares

Parking Boarding Station Frequency of Service Seating Availability On-time Performance

River LINE

experience on

Iavel

19. Tell us about your

Fare Inspection Ticket Vending Machines Machines Machines Machines Information Cuanting of Connections with Connections with Connections Customer Communication

Black/African Americar Other (Please specify)

American Indian/Alaska Native

Multi-Racial

□ White

Asian/Pacific Islander

23. Are you of Hispanic origin? No Tes (Please specify)

65 and over

35 - 44 years
 45 - 54 years
 55 - 64 years

 Male
 Female 21. What is your age?

DEMOGRAPHICS

with River LINE

Satisfaction Overall

20. Are you...?

22. What is your Race? Under 18 years
 18 - 24 years
 25 - 34 years

12. Which of the following statements best applies to you? (Check only one)	<ul> <li>I have no other way to travel</li> <li>I use the RiverLINE because it is the best choice for me</li> <li>I usually use another type of transportation, but I occasionally take River LINE</li> </ul>	13. What type of River LINE ticket are you using for this trip?  One-Way Ticket  Monthly River LINE Pass  Monthly Rail Pass	Ten Trip Ticket     Bus Transfer     Bus Monthly Pass     Family SuperSaver Fare     Senior Critizens/Customers with disability/Children	<ul> <li>14. Where did you purchase your River LINE ticket?</li> <li>Ticket Vending Machine</li> <li>On-board bus (Transfer)</li> <li>From employer</li> <li>Other (Please specify)</li> </ul>	15. Does your employer reimburse you for transit? □ No □ ∀es □ How much? \$ per month	<ol> <li>Do you ride NJT Bus Routes #409, #413 and #419 at least once a week or more?</li> <li>Yes</li> </ol>	17. When did you first start using the River LINE? (month/year)	18. NJ TRANSIT is constructing a new transfer station between the River Line to the Atlantic City Rail Line in Pennsauken. This would allow travel to Atlantic City and 30th Street Station in Philadelphia. How frequently would you use this service?	1-5 Days a Week     Once every 2-3 Months       1-3 Days a Week     1-3 Times a Year       1-3 Times a Month     Never	Continue to the back >>>
al destination after exiting the	Carpool Car-Drop off Taxi a station)	tation)	r ride the River LINE?	e this trip if the River Line service was r that apply) ion	ectry location)	h station)	ause of River LINE	el for the other half of your round trig ti apply)		
8. How will you get to your fin: River LINE?	Walk     Walk     Car-Drive and park     Car-Drive and park     NuT Tain (Specify boarding	<ul> <li>NJT Bus (Specify route)</li> <li>Other Bus (Specify route)</li> <li>Other Bus (Specify route)</li> <li>PATCO (Specify boarding s</li> </ul>	<ul> <li>9. Generally, how often do you</li> <li>5 or more days a week</li> <li>4 days a week</li> <li>1-3 days a week</li> </ul>	10. How would you make make available? (Please check all Drive alone to final destinat	Car-Uropped oft (Please sp Bus (Which route) Taxi Auth to/from N IT Pail AMhic	Bus toffrom NJT Rail (Which Bus toffrom NJT Rail (Which Chher Kail (Which exiting st Auto toffrom PATCO (Which Chher (Please specify)	<ul> <li>Would not make this trip</li> <li>Started making this trip bec</li> </ul>	<ol> <li>How did you (will you) trav today? (Please check all tha River LINE</li> </ol>	Bus (Specify carrier & route     Train (Please specify)     Auto/Van     Auto/Van     Base specify)     Not marking a round trip	

3. Where are you coming from?

C Shopping	Medical/Dental	Personal Business	Social Recreation	
□ Home	□ Work	School (K-12)	Chool (Technical/College)	Other (Please specify)

# 4. What is that address?

Number & Street OR Intersection OR Location

5. How did you get to the River LINE station for this one-way trip? State Zip Code Borough/Town

C Ĺ

alk  Carpool	cycle	Ir-Drive and park	IT Bus Capital Connection	IT Train (Specify boarding station)	IT Bus (Specify route)	her Bus (Specify route)	(TCO (Specify boarding station)	EPTA (Specify)
Allew -	□ Bicycle	Car-Driv	NJT Bus	NJT Trai	NJT Bus	Other Bu	D PATCO	SEPTA (

# 6. Where are you going?

C Shopping	Medical/Dental	Personal Business	Social/Recreational	Other (Please specify)	
Home	Work	Cchool (K-12)	School (Technical/College)	Business trip	

# 7. What is that address?

Number & Street OR Intersection OR Location

State Zip Code Borough/Town



**Total con River LINE** 

20. ¿Es usted...?

Cliente Satisfacción

General con el Comunicación

conexiones con

Información Calidad de

Frecuencia de servicio

Inspección de tarifa

Venta de boletos

Máquinas

Seguridad personal

Tiempo de viaje

Tarifas

Estación de abordaje

Estacionamiento

0

Menor de 18 años 21. ¿Cuál es su edad?

18 - 24 años 25 - 34 años 22. ¿Cual es su raza?

Multirracial

No

Blanco

#### **River LINE Spanish Survey Instrument**

al después de bajarse de 12. ¿Cuál de las siguientes afirmaciones se aplica mejor a usted? (Marque sólo una opción)	□ Visia an arth rommartido	Viaje en auto companituo     Uso River LINE porque es la meior porción para mí	ulo	tomo River LINE	n en la que bajó)	JT Boleto de ida	sn la que bajó)	Deleto para diez viajes     Deleto para diez viajes     Deleto para diez viajes     Deleto para diez viajes	Tarifa familiar vivor aborradora	Usuario por primera vez     Ciudadanos mayores/clientes con discapacidad/niños	14. ¿Dónde compró su boleto de River LINE?	Máquina para la venta de boletos	aje si el servicio de River Line no está ☐ A bordo del autobús (Transferencia) todas las que correspondan) ☐ Del empleador	Otro (Por favor especifique)	I destino final 15. ¿Su empleador le reembolsa el transporte?	(Por favor especifique ubicación)	16.¿Toma las rutas de autobús de NJT Nº 409, 413 y 419 al menos una voz nor semana o más?		iii (qué estación de salida) U SI	tude estadori) 17. ¿Cuándo empezó a utilizar River LINE? (mes/año) 3a)	(qué estación de abordaje)		18. NJ INANJI esta construyendo una nueva estacion de transferencia entre River Line y Atlantic City Rail Line en Pennsauken	en Filadelfía. ¿Con qué frecuencia utilitza este servicio? en Filadelfía. ¿Con qué frecuencia utilitza este servicio?	e correspondan)	1-3 días a la semana     1-3 veces al año       1-3 veces al mase     11-3 veces al año		Continús en la narte nostarior
<ol> <li>¿Cómo llegará a su destino fina River LINE?</li> </ol>	Caminar	Ir en bicicleta	Conducir y estacionar un vehíc	Otro (Por favor especifique)	☐ Tren NJT (Especifique estaciór ☐ Autobús NJT (Especifique la n	Autobús Capital Connection N. Otro autobús (Especifique la ru		USEPTA (Especinque)	6 n más días a la semana	4 días a la semana	1-3 días a la semana Otro (Por favor especifique)		10.¿Qué hará para realizar este vi disponible? (Por favor marcar	Maneiar solo hasta el destino f	☐ Viaje en vehículo compartido a	🗌 Otro automóvil lo traslada/deja	🗌 Autobús (Qué ruta)	Taxi	Automovil hacia/desde NJT Ra     Automovil hacia/desde N IT Bail	Otro Rail (qué estación de sali	Automóvil hacia/desde PATCO	Otro (Por favor especifique)	No hará este viaje	U cómo viaió (viaiará) la otra m	(Por favor marque todas las qu		Autobús (Especifique compañi     Tran (Por favor especificule)	Automóvil/Camioneta
ide viene?		Wedico/Dentista	(Técnico/Escuela de educación superior)	tón Social	r favor especifique)	ssa dirección?	le O Intersección O Ubicación	dad Estado Códico postal	nord a la estación de River LINE nara esta viala de ida?		Indo Uvaje en vehículo compartido	siendo y estacionando un vehículo	Capital Connection NJT	s NJT (Especifique la ruta)	tobús (Especifique la ruta)	(Especifique)	se dirige?	Centros comerciales	□ Médico/Dentista	Vecreacional Legocio personal	a (K-12)	a (Técnico/Escuela de educación superior)	or favor especifique)	esa dirección?	la O Interserción O Ubicación		idad Estado Código postal	

Publication Title:	NJ Transit River LINE Survey
Publication Number:	11057
Date Published:	March, 2013
Geographic Area Covered:	Mercer, Burlington, and Camden Counties
Key Words:	River LINE, Transit, Survey, NJ Transit
Abstract:	New Jersey Transit's River LINE light rail service has not been surveyed since it opened in spring of 2004. This survey was used to update demographic profiles and determine travel patterns of riders using the River LINE. The River LINE was surveyed in both directions, north and south, and the focus was on the AM peak period of travel.

#### Staff Contact:

Joshua Rocks Transportation Planner <sup>™</sup> (215) 238-2854 <sup>√</sup>∂ jrocks@dvrpc.org

Delaware Valley Regional Planning Commission 190 N. Independence Mall West, 8th Floor Philadelphia PA 19106 Phone: (215) 592-1800 Fax: (215) 592-9125 Internet: www.dvrpc.org



