Analysis of Distance and Time Perceptions for Walking Trips:

New Jersey Statewide Pedestrian Survey

RUTGERS
Edward J. Bloustein School
of Planning and Public Policy

Acknowledgments

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The New Jersey Bicycle and Pedestrian Resource Center (BPRC) assists public officials, transportation and health professionals, and the public in creating a safer and more accessible walking and bicycling environment through primary research, education and dissemination of information about best practices in policy and design. The Center is supported by the New Jersey Department of Transportation through funds provided by the Federal Highway Administration.

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I. Introduction

In 2017, the Alan M. Voorhees Transportation Center (VTC) undertook a study to understand the factors that influence a person's decision to walk, bicycle, drive, or take public transportation for a given trip. The study was particularly interested in understanding how often residents are driving for seemingly walkable trips and what factors can be attributed to this decision. The study relies primarily on data gathered through intercept surveys conducted throughout the summer of 2017. Survey data was supplemented with environmental data collected from each location. The report aims to provide an understanding of influences on mode choice and seeks to identify opportunities to promote more walking for shorter trips.

The last pedestrian behavior study conducted by VTC was undertaken in 2009. While the survey methodology has evolved, several survey questions were repeated in order to identify changes in walking behavior over the last eight years.

The report is broken down into three sections. First, a summary of findings across all survey locations provides a general overview of the attitudes and behaviors witnessed across the state. The second section analyzes the data collected for each location and includes maps of the locations utilized on each survey. Lastly, conclusions are drawn from the data to inform policies related to changing transportation habits and encouraging walking for short trips in communities around the state.

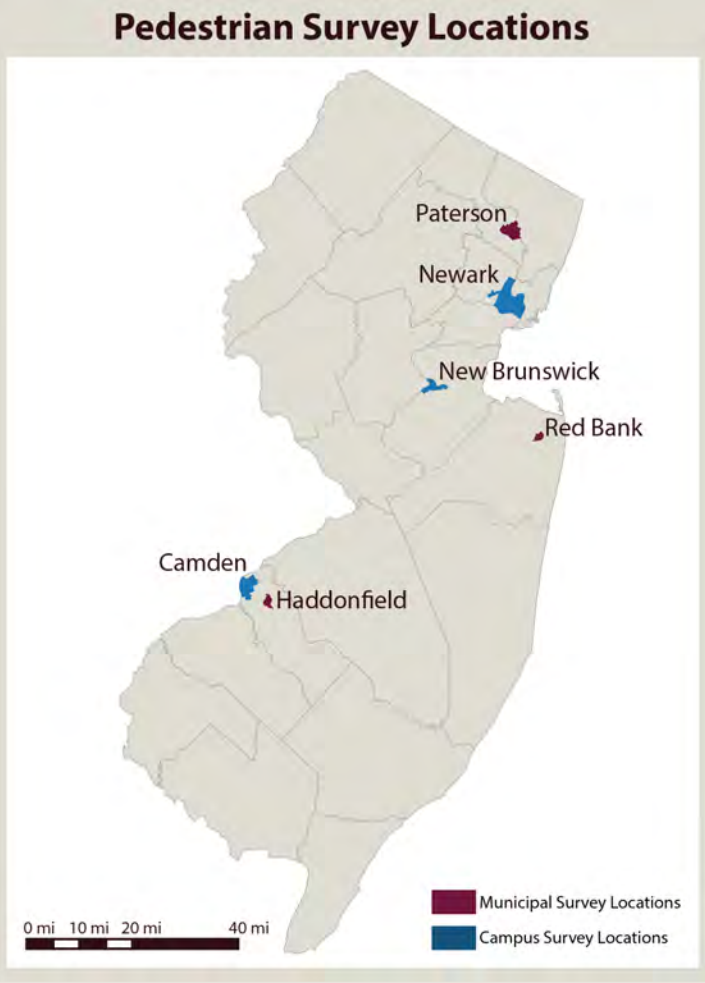


Figure 1: Municipal and Campus Survey Locations Throughout the State

Methodology

Intercept surveys were conducted by graduate students in seven locations across the state including four Rutgers University locations and three municipalities (see Figure 1). Surveys were only provided to respondents over 18 years of age. The locations were determined with a number of characteristics in mind. First, researchers targeted student populations at the three Rutgers University campuses across the state; New Brunswick, Newark and Camden. Two locations were chosen on the New Brunswick campus in order to compare responses from walkable urban environments to that of an isolated and car-dependent environment. Additionally, the campus atmosphere allowed researchers to target the student population which offered a unique opportunity to capture responses from residents across a spectrum of familiarity with the area, from those still getting to know the campus to those with an understanding of multiple walking routes to various locations. Secondly, responses were captured from non-student populations by utilizing census data to choose three geographically and socially disparate locations in walkable municipalities throughout the state.

A unique survey was designed for each of the seven locations, including a Spanish translation for Paterson. Respondents were asked to estimate the distance and walking times to two well-known nearby locations less than one mile away from the designated survey intersection. In most instances, respondents were asked to estimate the distance to a park in one direction and a train station in the opposite direction (see Appendix A for full surveys). When an easily identifiable park or train station was not located nearby, other popular locations were identified, such as the New Jersey Performing Arts Center in Newark. The second portion of the survey, which collected demographic information and general transportation habits, remained the same across all seven locations.

II. Statewide Survey Analysis

A total of 1,297 surveys were collected from across the state. The Rutgers campus locations garnered the greatest number of responses, each providing more than 200 surveys. The College Avenue section of the New Brunswick campus resulted in the greatest number of surveys collected (290 surveys as shown in Figure 2).

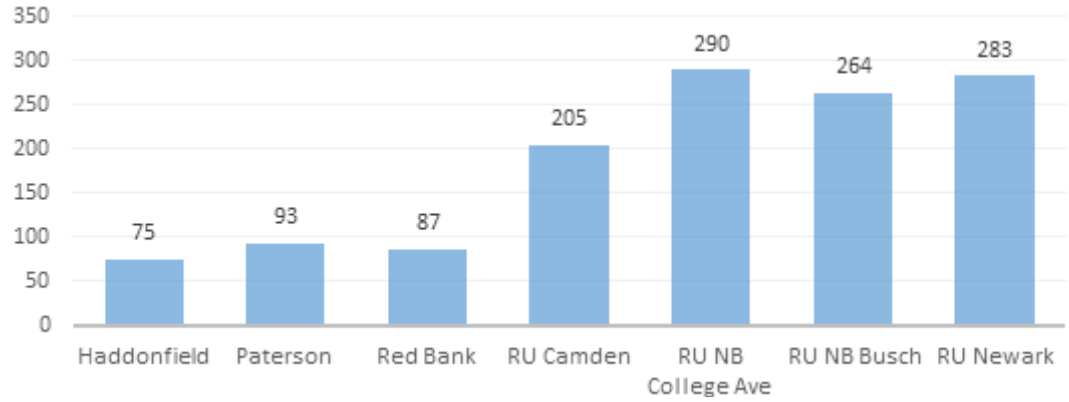


Figure 2. Total Surveys Collected by Location (n=1,297)

Demographics

Nearly seven in ten respondents (67.9%) fell between the ages of 18 and 24, while those between the ages of 25 and 34 represented the second largest group (11.1%). More survey respondents were female (55%) than male (45%). Approximately 15 percent of respondents reported an annual household income between $25,000 and $49,999 for 2016. The remaining seven income categories each garnered approximately 10 percent of responses. However, more than one in five respondents were unsure of their 2016 household income (22.5%). White respondents comprised the largest share (38.7%) while Asians represented the second largest group (24.9%), as shown in Figure 3.

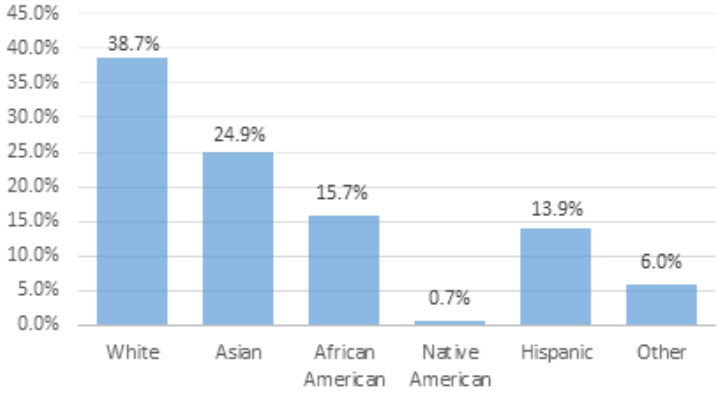


Figure 3. Respondent Race/Ethnicity (n=1,151)

Walking Behavior & Transportation Options

Walking as a mode of transportation provides a wide variety of social, economic, and personal benefits. It can reduce energy consumption, reduce congestion within cities, and has been proven to enhance mental and physical health. Walking, as a means of transportation, exercise and leisure activity, has grown in popularity over the past decade.

Respondents were then asked about their transportation habits as a child and today. Understanding these habits, as well as respondents' transportation options, can help to assess the weight their habits may play in influencing their transportation mode choice in the walkable areas chosen for the survey. Respondents were asked what modes of transportation they used when getting to school as a child. The same proportion of respondents noted walking (40.2%) or riding a school bus (40.7%). Each accounted for approximately two out of five responses, while just over one quarter of respondents (27.4%) rode to school

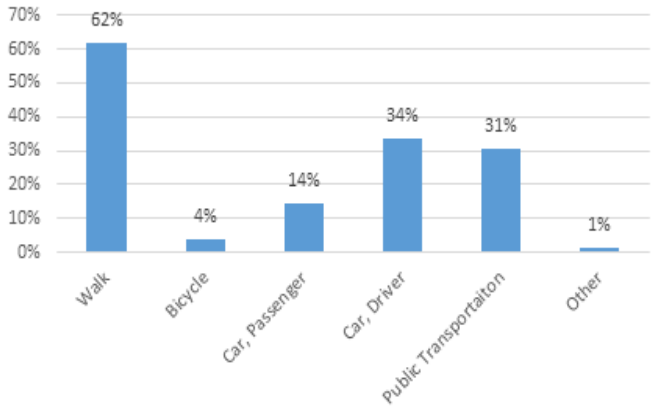


Figure 4. Typical Mode of Transportation in the Area Surveyed (n=1,297)

in a car. Respondents were also asked the typical mode of transportation they utilized in the area where they received the survey. Nearly two out of three respondents reported walking (62%) followed by driving (34%) and public transit (31%). These figures help to understand the habits that respondents have formed as far back as their childhood.

Approximately three in five respondents (59.4%) reported owning a car. The only two locations where the majority of respondents reported not having a car were in Red Bank (78.8%) and Rutgers' College Avenue Campus (53.6%), as shown in Figure 5. Haddonfield had the greatest share of respondents with vehicles (92.5%).

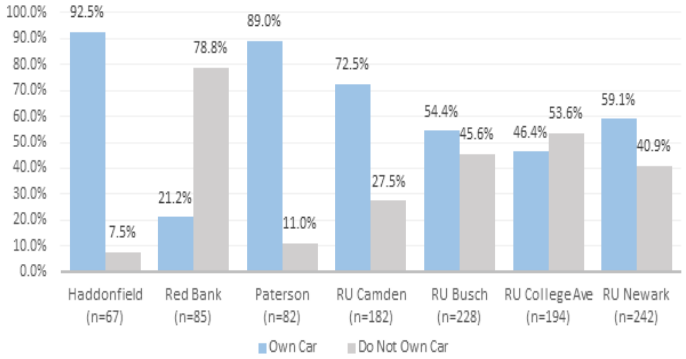


Figure 5. Car Ownership by Survey Location

As previously mentioned, surveys were strategically distributed in highly walkable areas. Respondents were asked, "From here, how would you typically get to and return from" each of two well-known locations within walking distance of the survey location. Only half of survey respondents preferred walking to the locations, despite numerous pedestrian amenities and short distances. Nearly one in five respondents (19%) preferred using a car to reach these walkable destinations, while an additional one in four preferred taking a bus (25%), as shown in Figure 6. Understanding why nearly half of the survey respondents chose to drive or use a bus in these walkable areas may reveal opportunities to increase walking throughout New Jersey.

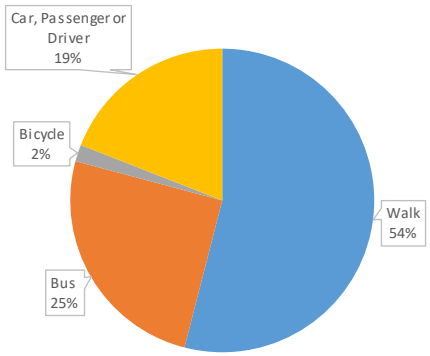


Figure 6. Intended Mode of Transportation to Walkable Survey Locations (n=2,583)

Distance Estimations

Respondents were asked to estimate the distance and time it would take to walk from the location where they received the survey to a specified location nearby. Each respondent was asked about two separate locations and had the option of stating that they were unfamiliar with the location. Estimates were deemed correct if they fell within 20 percent of the actual distance or time. Distance estimates were accepted in both miles and kilometers and later converted to miles. Walking times were estimated at a speed of 2.7 miles per hour, a standard utilized by the Federal Highway Administration to calculate crosswalk signal timing.

Overall, respondents were better at estimating the time it would take to walk to a location as compared to the distance. Nearly two out of five respondents accurately estimated at least one walking time (39.9%) while roughly one in four estimated at least one accurate distance (25.9%) as shown in Figure 7. More than three in four respondents (74.2%) were unable to estimate an accurate distance and three in five (60.1%) were unable to estimate an accurate walking time.

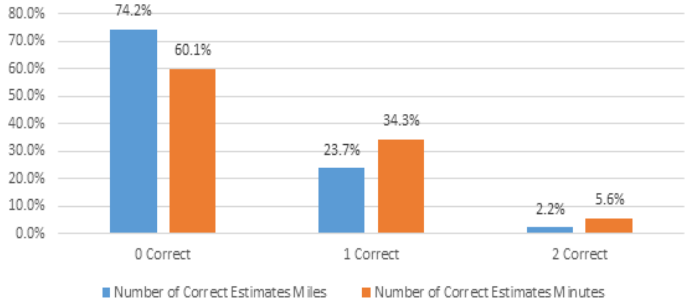


Figure 7. Number of Correct Estimates Per Respondent (n=1,297)

More responses fell into the category of correct for minutes (30.3%) than for miles (23.7%). Responses most commonly fell into the category of overestimating miles (60.5% of responses) and underestimating minutes (39.2% of responses), as shown in Figure 8. Responses

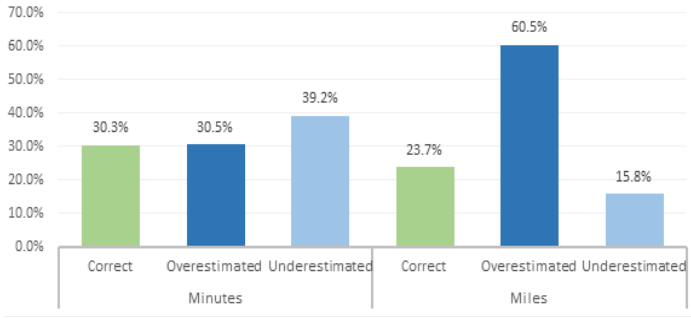


Figure 8. Percent of Correct, Overestimated and Underestimated Responses by Minutes (n=1,708) and Miles (n=1,411)

were least likely to fall into the category of underestimating distance (15.8% of responses).

Respondents were asked, "How do you typically get around in this area," and were permitted to select all modes of transportation that applied. The proportion of respondents who answered inaccurately to the time estimations remained the same regardless of the mode of transportation they typically used in the area (see Figure 9) or their gender (see Figure 10). However, White respondents were most likely to estimate both distances inaccurately (63.2%) and Black or African American respondents were mostly likely to provide at least one correct distance estimate (45.3%) as shown in Figure 11.

There was not much difference among the accuracy of respondents' estimations based on how long they were familiar with the area. Respondents familiar with the area for three years or more were most likely to estimate one accurate distance in minutes (40.3%, as shown in Figure 12) and respondents familiar with the area for four years or more were most likely to accurately estimate two distances in minutes walking (7.8%). So, giving someone more time to learn an area, does not necessarily mean that they will more accurately perceive the time and distances to each location.

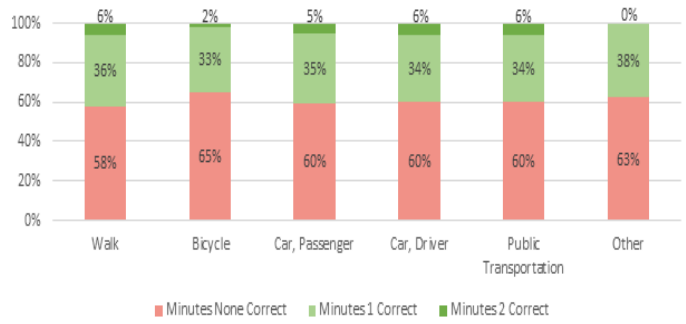


Figure 9. Number of Distances Accurately Estimated in Minutes Walking, by Typical Mode of Transportation in the Area

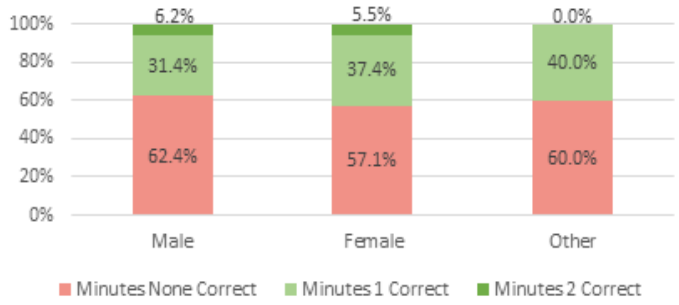


Figure 10. Number of Distances Accurately Estimated in Minutes Walking by Gender of Respondent

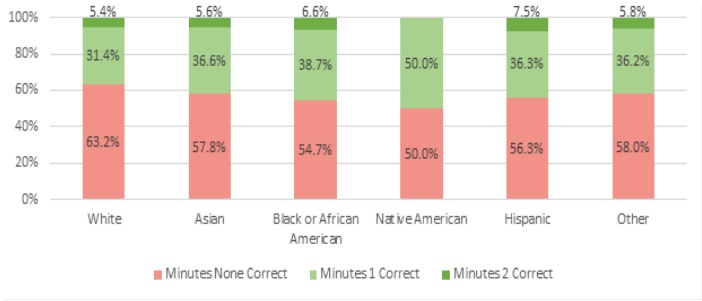


Figure 11. Number of Distances Accurately Estimated in Minutes Walking by Race/Ethnicity of Respondent

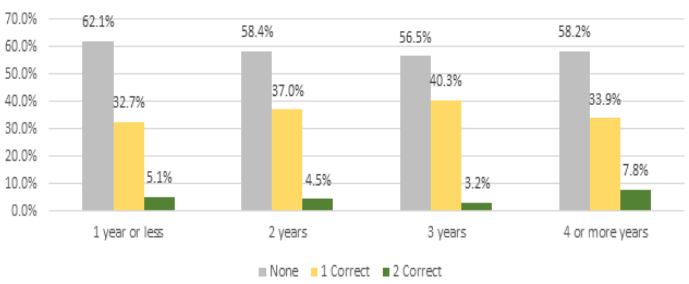


Figure 12. Accuracy of Distance Estimation in Minutes by Familiarity with Area

III. Municipal Survey Locations

A total of 255 surveys were collected through the municipal surveys conducted in Haddonfield Township, Red Bank and Paterson. As was expected, fewer responses were sampled in these locations as compared to the campus locations.

Haddonfield Township

Borough of Red Bank

City of Paterson

Haddonfield Township

Haddonfield was chosen to represent a demographic with a relatively high median household income and low diversity. The median household income is $128,000, nearly twice the New Jersey median household income. Additionally, Haddonfield is home to a population that is about 92 percent White as compared to statewide, where Whites represent 52 percent of the population.[1] Surveys were distributed in Haddonfield at the intersection of Kings Highway East and Mechanic Street in the borough's historic downtown (see Figure 13). The area is considered a "Walker's vParadise" with wide sidewalks, slow traffic speeds, several pedestrian plazas, and a mix of stores, businesses and housing earning the area a Walk Score of 90.[2] The corridor is also served by a NJ Transit bus line. Surveys were distributed over the course of two weekdays in September and surveyors witnessed a constant flow of pedestrians in the area.

Figure 13. Haddonfield Township Survey Locations

Respondents were asked about the distance to the Haddonfield PATCO Station and to the entrance of Challenge Grove Park. The PATCO station is only 0.3 miles away from the survey location which translates to a brief seven-minute walk. The majority of the walk to the PATCO station is along Kings Highway East, a dense commercial corridor lined with restaurants, retail stores, and places of worship. The walk offers wide sidewalks and numerous pedestrian amenities, including clearly marked crosswalks. Challenge Grove Park is located one mile in the opposite direction and is approximately a 21-minute walk from the survey location. The most direct route proceeds down Kings Highway East into a more residential neighborhood adjacent to Haddonfield High School. Most of the route takes pedestrians along tree-lined streets with wide sidewalks. However, sidewalks terminate on the park side of the street, approximately 500 feet before the park's entrance and there is currently no crosswalk to connect the entrance to the sidewalk on the opposite side of the street (see Figure 14), creating a barrier to pedestrians approaching from the downtown area. Respondents' ability to accurately estimate the distances to either location did not improve over time. As shown in Figure 15, respondents who had been familiar with the area for a longer time, were more likely to provide no accurate estimates (79.6%) as compared to those who had only known the area for a year or less (66.7%).

Figure 14. No Crosswalk Serving the Entrance to Challenge Grove Park (Source: Google Street View)

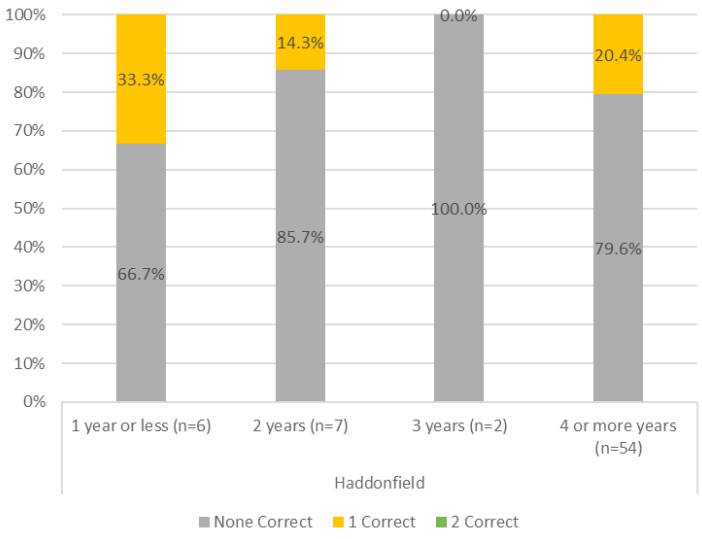


Figure 15. Number of Correct Estimations by Years of Familiarity with the Area

1 US Census Bureau (2015)
2 https://www.walkscore.com/score/4-mechanic-st-haddonfield-nj-08033

Location 1: Haddonfield PATCO Station

These walking amenities support the three in four respondents (74%) who stated they would walk to the PATCO station, but still nearly one in four respondents would travel to the Haddonfield PATCO Station by car (23%, as shown in Figure 16). Additionally, nearly three in four respondents (72%) inaccurately estimated the distance to the PATCO station, with nearly two in three respondents overestimating the distance (62.7%), as shown in Figure 17. On average, respondents provided an estimated walking time of eight minutes and a median of six minutes, with several respondents overestimating by one mile or more (see Figure 18). Similarly, 86.7 percent of respondents inaccurately estimated the time it would take to walk to the Haddonfield PATCO Station, with 46.7 percent of respondents underestimating the walking time. Weather was the most commonly reported reason for not walking to the Haddonfield PATCO Station (46.7%, daytime and 40%, nighttime). Additionally, more than one in ten respondents noted that it was "faster to drive/ride bus/bike" than to walk (see Figure 19).

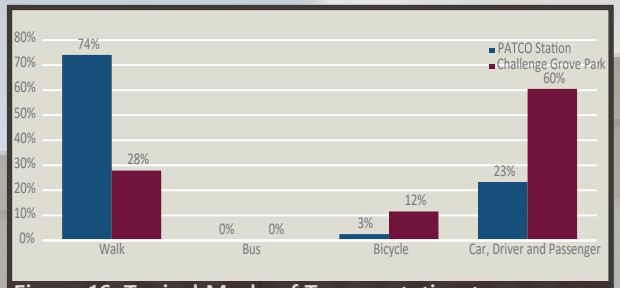


Figure 16. Typical Mode of Transportation to Haddonfield PATCO (n=77) Station from Survey Location (n=43)

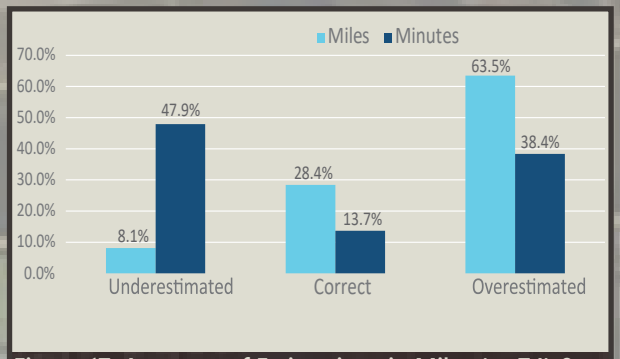


Figure 17. Accuracy of Estimations in Miles (n=74) & Minutes (n=73) to the PATCO Station

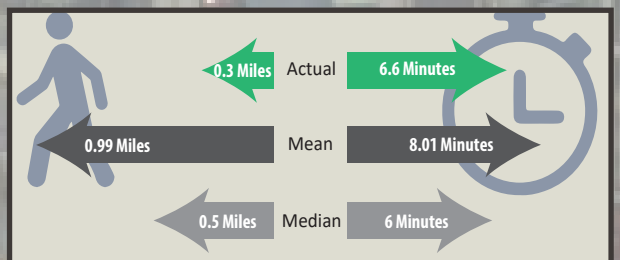


Figure 18. Respondent Estimations, Distance to PATCO in Miles (n=75)

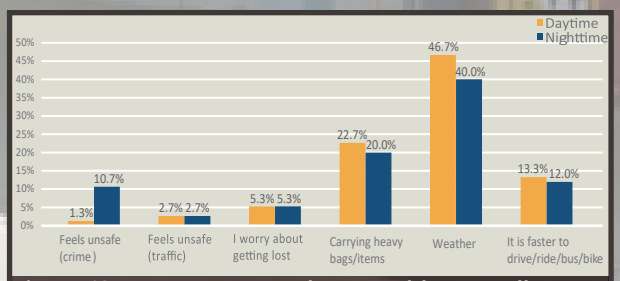


Figure 19. Reasons Respondent Would Not Walk to the Haddonfield Train Station (n=75)

Location 2: Challenge Grove Park

The route to Challenge Grove Park is about three times longer than the route to the train station and lacks some pedestrian amenities. Only 28 percent of respondents reported they would walk to Challenge Grove Park, while three in five respondents would use a car (60%) to reach the destination (see Figure 16). Nearly three in four respondents (73.5%) inaccurately estimated the distance to Challenge Grove Park, with more than half of respondents (55.9%) overestimating the distance in miles (see Figure 20). The mean and median estimated values for the distance to the park were 1.72 miles and 1.5 miles respectively, with many respondents estimating a distance of two miles or more (see Figure 21). Nearly half of respondents (46.9%) underestimated the amount of time it would take to walk to Challenge Grove Park (see Figure 19). Respondents provided a mean walking time of 22.07 minutes and a median walking time of 20 minutes. Respondents most often noted they would not walk to the park because of weather and faster alternatives (see Figure 22).

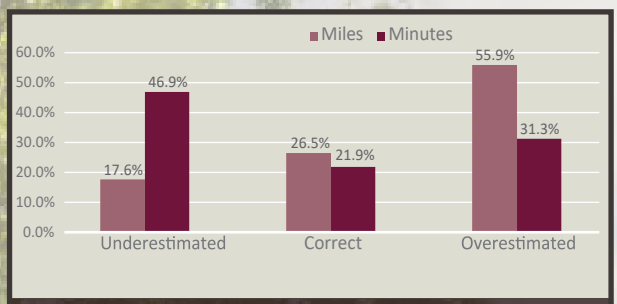


Figure 20. Accuracy of Estimations in Miles & Minutes to Challenge Grove Park (miles n=34; minutes n=32)

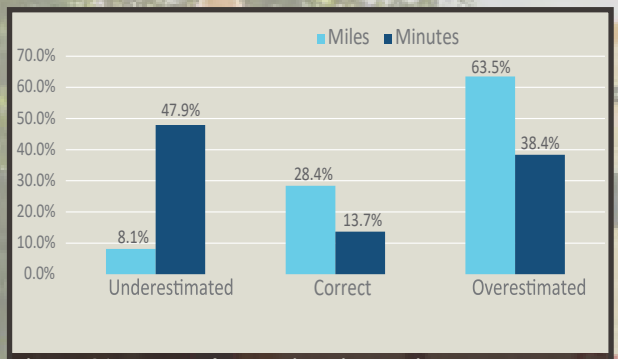


Figure 21. Respondent Estimations, Distance to Challenge Grove Park (miles n=34; minutes n=32)

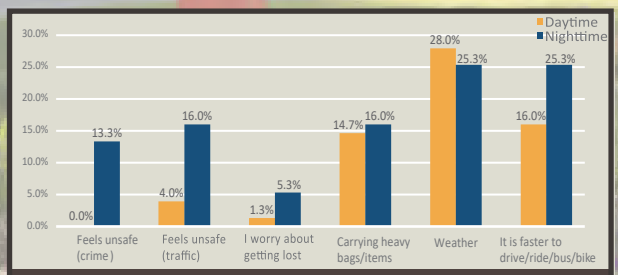


Figure 22. Reasons Respondent Would Not Walk to Challenge Grove Park (n=75)

City of Paterson

The City of Paterson was chosen to represent a diverse demographic in Northern New Jersey with a relatively low income. The city has a median household income of $36,000, which is about half that of the state and more than three times lower than the median household income in Haddonfield. Paterson is a minority-majority urban location where Hispanics represent 61 percent of the city's population, Blacks represent 30 percent, and Whites constitute approximately 10 percent of the population. 3

Figure 23. City of Paterson Survey Locations

Surveys were distributed in Paterson, in both English and Spanish, at the intersection of Market Street and Main Street in the city's dense downtown (see Figure 23). The area is considered a "Walker's Paradise" with wide sidewalks, clearly marked crosswalks, and diverse and dense land uses, earning the area a Walk Score of 99 out of 100.4 The street is heavily traversed by cars and trucks. Wide sidewalks and pedestrian amenities like ADA compliant ramps and crosswalks, help make the pedestrian experience safer. The corridor is also served by NJ Transit bus lines and local jitney services. Surveys were distributed on two weekdays in the fall and although the corner was very busy—surveyors witnessed constant high volumes of pedestrian traffic—response rates were much lower than the campus surveying.

Respondents were asked about the distance to the Paterson Train Station and to Great Falls National Historic Park (NHP). The train station is only 0.4 miles away from the survey location which approximately translates to a nine-minute walk. The majority of the walk to the station is along Market Street, a dense commercial corridor with wide sidewalks and crosswalks along the entirety of the route. Near the station, pedestrians must turn onto Memorial Drive and cross six lanes of traffic via a 100-foot crosswalk (see Figure 24). A similarly large crossing is required at Ward Street, just prior to arriving at the train station. Great Falls NHP is located 0.7 miles from the survey location in the opposite direction of the train station. The most direct route takes pedestrians down Market Street, through the outer edge of the downtown commercial district and past a multitude of stores and restaurants. Crosswalks are present at most street crossings along the route. The sidewalks become much narrower on Spruce Street and the character of the neighborhood begins to transition into an industrial feel, though several of these buildings have been repurposed for housing and other uses. Curb bump-outs at the intersection of McBride Avenue and Spruce Street provide much needed pedestrian safety improvements along the busy road that provides entrances into the park. The majority of respondents were very familiar with the area but were unable to accurately estimate the distances to each location (see Figure 25).

Figure 24. Pedestrians Crossing Memorial Drive at Market Street

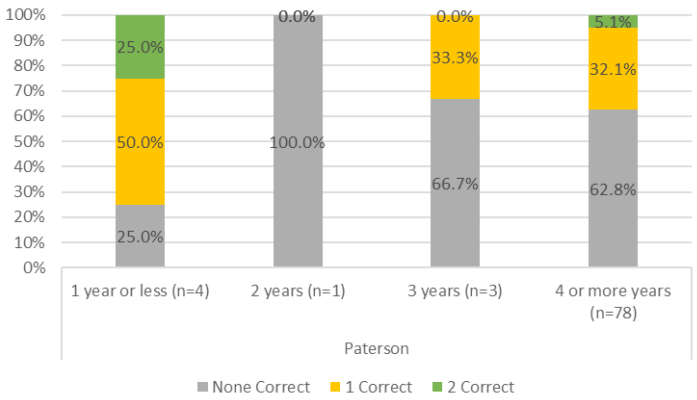


Figure 25. Accuracy of Estimations by Years of Familiarity

3 US Census Bureau (2015)
4 https://www.walkscore.com/score/4-mechanic-st-haddonfield-nj-08033

Location 1: Paterson Train Station

Nearly one in five respondents would travel to the Paterson Train Station by car (17%, as shown in Figure 26) while two in three respondents would walk to the train station (61%). Nearly one in four respondents (23%) would use a bus to reach the train station. Only two out of the total 78 Paterson respondents accurately estimated the distance to the train station, with more than eight in ten overestimating the distance (85.9%), as shown in Figure 27. On average, respondents estimated a distance of 2.74 miles and provided a mean of one mile, with a number of respondents estimating distances over three miles long (see Figure 28). Approximately one in four respondents (27.3%) accurately estimated the time it would take to walk to the train station. The mean and median value for the estimated minutes walking were 16.15 minutes and 10 minutes respectively. Crime was the most commonly reported reason for not walking to the Paterson Train Station at night (58.1%) while weather was the most commonly reported reason or daytime (34.4%), as shown in Figure 29. Additionally, more than one in five respondents noted that it was "faster to drive/ ride bus/bike" than to walk.

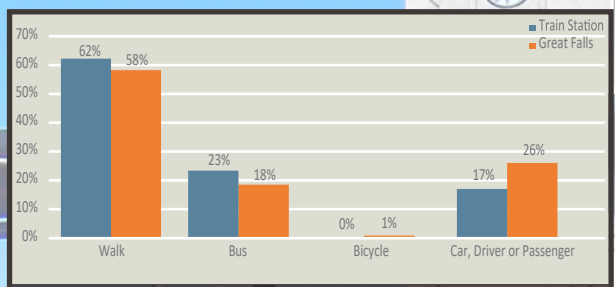


Figure 26. Typical Mode of Transportation to the Paterson Train Station (n=114) and Great Falls NHP (n=107) from Survey Location

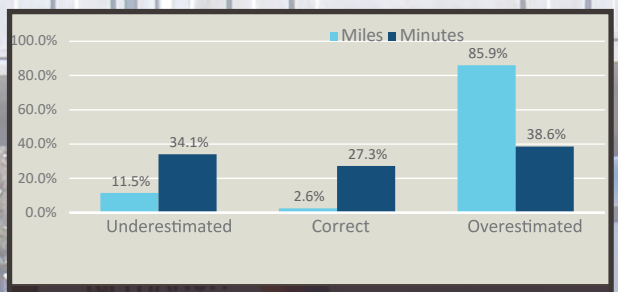


Figure 27. Accuracy of Estimations in Miles (n=78) & Minutes (n=88) to Paterson Train Station

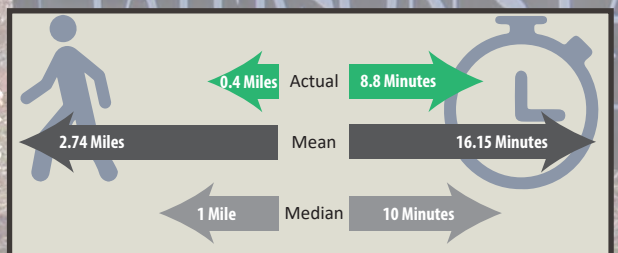


Figure 28. Respondent Estimations, Distance to Paterson Train Station in Miles (n=74)

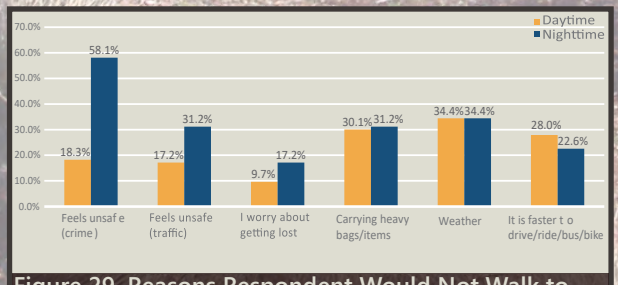


Figure 29. Reasons Respondent Would Not Walk to the Paterson Train Station (n=93)

Location 2: Great Falls National Historic Park

The route to Great Falls National Historic Park is about twice that of the train station and witnesses less pedestrian traffic. More than half of respondents (56%) would walk to Great Falls NHP, while one in four would use a car (25%), as shown in Figure 26. Similar to the train station, nearly one in five respondents would take a bus to reach the destination (18%). Nearly one in three respondents (31.9%) accurately estimated the distance to the park, with two in five respondents overestimating the distance (44.4%), as shown in Figure 30. The mean distance was 2.93 miles, only 0.2 miles longer than the mean distance provided for the train station despite an actual distance twice as long. However, the median estimate was an accurate one mile (see Figure 31). Fewer respondents were able to accurately estimate the time it would take to walk to the Falls (18.3%), with nearly half of respondents underestimating the time (56.1%). Respondents provided a mean walking time of 23.41 minutes and a median walking time of 15 minutes. Respondents most often noted they would not walk to the park because of crime at night (45.2%) and weather during the day (29%), as shown in Figure 32.

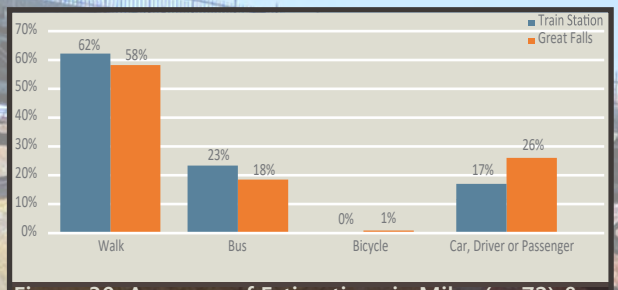


Figure 30. Accuracy of Estimations in Miles (n=72) & Minutes (n=82) to Great Falls NHP

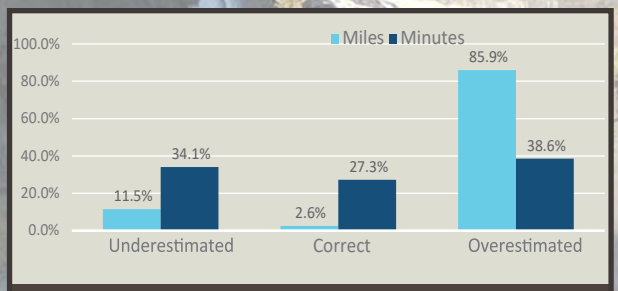


Figure 31. Respondent Estimations, Distance to Great Falls NHP in Miles (n=69)

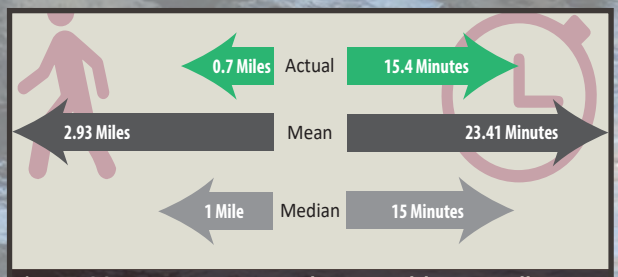


Figure 32. Reasons Respondent Would Not Walk to Great Falls National Historic Park (n=93)

Borough of Red Bank

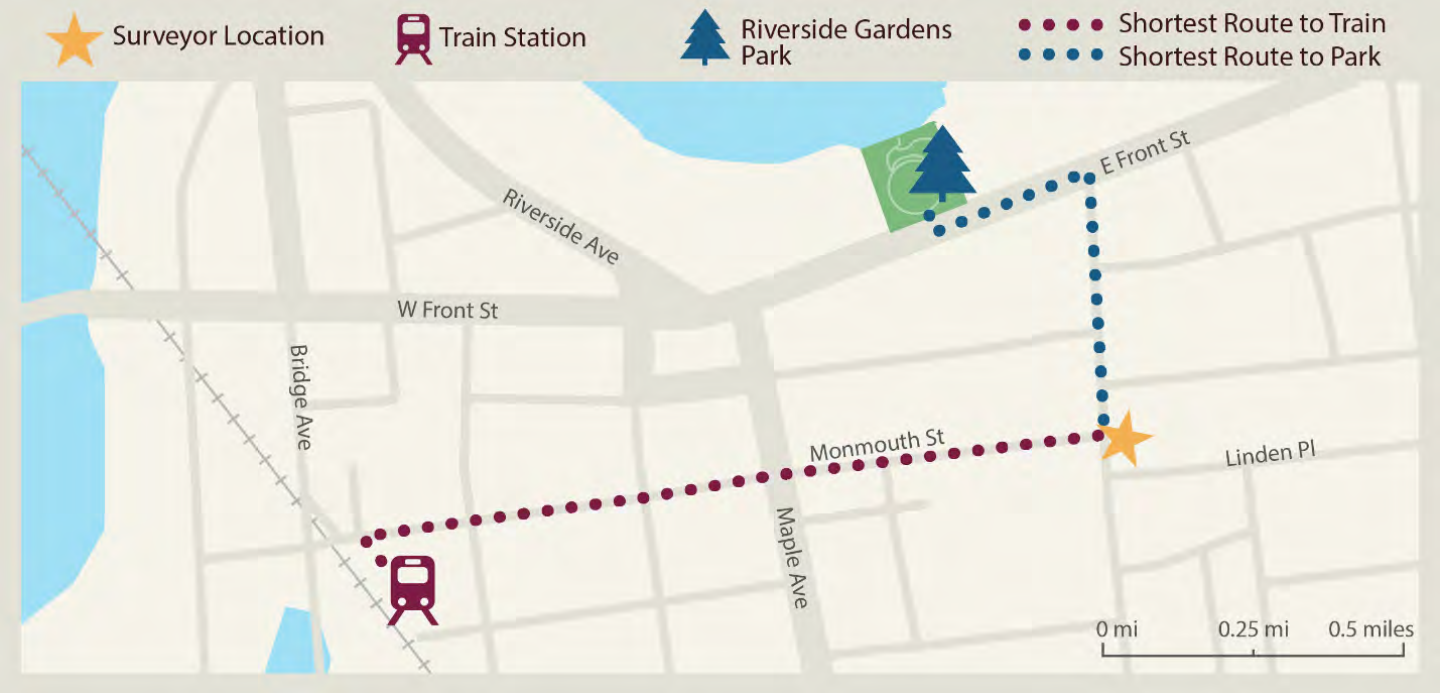


Figure 33. Borough of Red Bank Survey Locations

The Borough of Red Bank was chosen to represent a demographic that more closely matches New Jersey's statewide averages. The borough has a median household income of $62,000, which is only about $10,000 lower than the state's median household income. Red Bank's race and ethnicity breakdown mirrors that of the state, with 51 percent White and 13 percent Black. However, the borough has a relatively high Hispanic population, with 32.9 percent Hispanic as compared to 19 percent statewide.[5]

Surveys were distributed in Red Bank at the intersection of Broad Street and Monmouth Street at the center of the borough's downtown shopping district (see Figure 33). The area is considered a "Walker's Paradise" with wide sidewalks, clearly marked crosswalks, slow traffic speeds, and diverse and dense land uses, earning the area a Walk Score of 97 out of 100.[6] Surveyors witnessed constant pedestrian traffic, with especially high traffic during the afternoon hours as Red Bank Catholic High School is located one block south on Broad Street. Despite the high volume of high school students in the area, no one under the age of 18 was surveyed. Surveyors did note, though, that many students drove to the high school despite its walkable location.

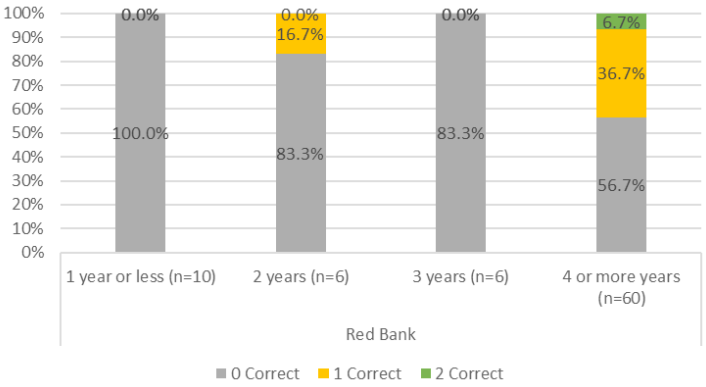


Figure 34. Accuracy of Estimations by Years Familiar with the Area

Respondents were asked about the distance to the Red Bank Train Station and Riverside Park. The train station is only 0.5 miles away from the survey location which approximately translates to a ten-minute walk. Pedestrians must walk about five blocks along Monmouth Street, past the historic Count Basie Theater, along wide sidewalks with clearly marked and ADA-compliant crosswalks. The route has many additional pedestrian amenities including mature trees, benches, and trash cans. Riverside Park is located 0.3 miles in the opposite direction and is approximately a six-minute walk. Pedestrians must walk up Broad Street, along sidewalks that are approximately 15 feet wide and through crosswalks that are made highly visible via brick stamped pavement. At the end of Broad Street, pedestrians exit the downtown business center and must cross West Front Street, a busier roadway where pedestrian amenities are still available, including wide sidewalks, mid-block crosswalks and mature trees. Respondents familiar with the area for four years or more were best able to accurately estimate the distances to each location (see Figure 34).

5 US Census Bureau (2015)
6 https://www.walkscore.com/score/74-broad-st-red-bank-nj-07701

Location 1: Red Bank Train Station

Almost half of respondents would travel the five blocks to the Red Bank Train Station by car (47%, as shown in Figure 35) while slightly more (50%) would walk to the train station. Additionally, three in ten respondents (30.7%) accurately estimated the distance to the train station, with nearly two in three overestimating the distance (62.7%). Respondents provided a mean of 3.04 miles and a median of 1 mile. Nearly the same proportion of respondents, three in ten (29.5%), accurately estimated the time it would take to walk to the train station. However, only 42.3 percent overestimated the walking time, as shown in Figure 36. The mean and median value for the estimated minutes walking were 14.40 minutes and 12 minutes respectively, with a majority of respondents estimating a distance of 0.5 to one mile (see Figure 37). Weather was the most commonly reported reason for not walking to the train station (44.8%) followed by carrying heavy bags (32.2%), as shown in Figure 38.

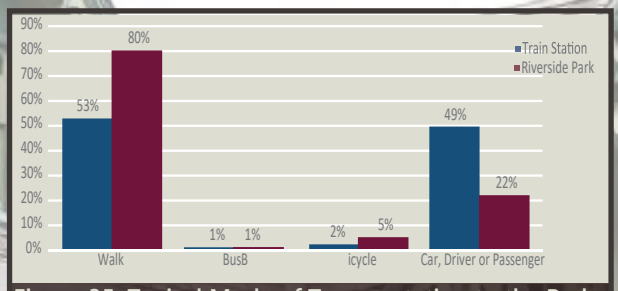


Figure 35. Typical Mode of Transportation to the Red Bank Train Station (n=90) & Riverside Park (n=83) from Survey Location

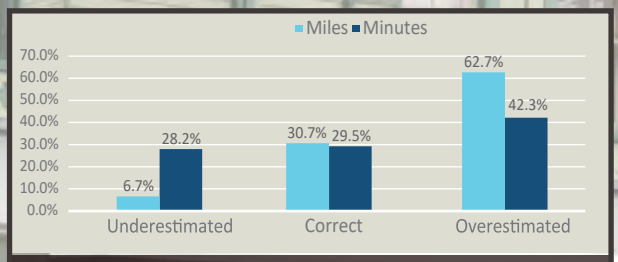


Figure 36. Accuracy of Estimations in Miles (n=75) & Minutes (n=78) to Train Station

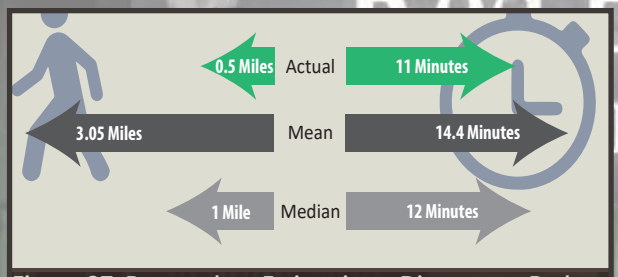


Figure 37. Respondent Estimations, Distance to Red Bank Train Station in Miles (n=73)

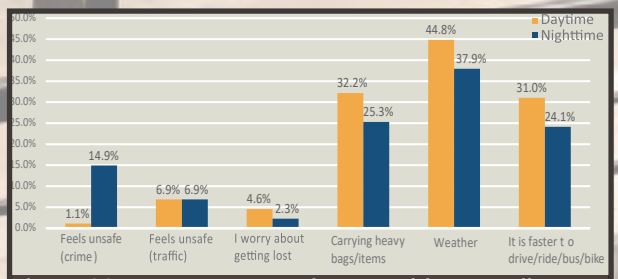


Figure 38. Reasons Respondent Would Not Walk to the Red Bank Train Station (n=87)

Location 2: Riverside Park

The route to Riverside Park takes pedestrians to the outskirts of the downtown area. Nearly three in four respondents (73%) would walk to Riverside Park, while one in five would use a car (20%), as shown in Figure 35. Only 19.7 percent of respondents accurately estimated the distance to the park, with three in four respondents overestimating (75.8%), as shown in Figure 39. The mean distance was 1.33 miles, while the median distance provided by respondents was 0.5 miles, with several respondents providing estimates over one mile (see Figure 40). Fewer respondents were able to accurately estimate the time it would take to walk to the park (14.9%), with 52.7 percent of respondents overestimating the time. Respondents provided a mean walking time of 10.5 minutes and a median walking time of 8 minutes. Respondents most often noted they would not walk to the park because of weather (31% during the day and 28.7% at night), as shown in Figure 41.

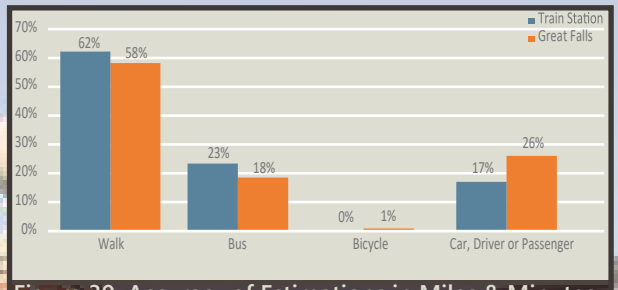


Figure 39. Accuracy of Estimations in Miles & Minutes to Riverside Park (miles n=66; minutes n=74)

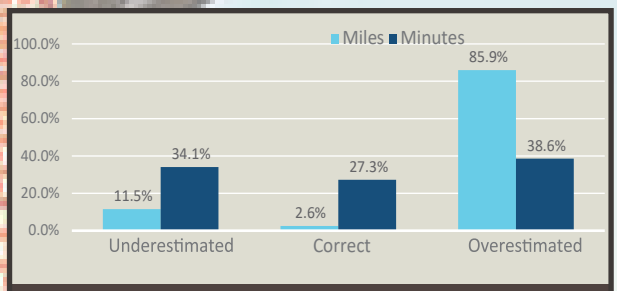


Figure 40. Respondent Estimations, Distance to Riverside Park in Miles (n=64)

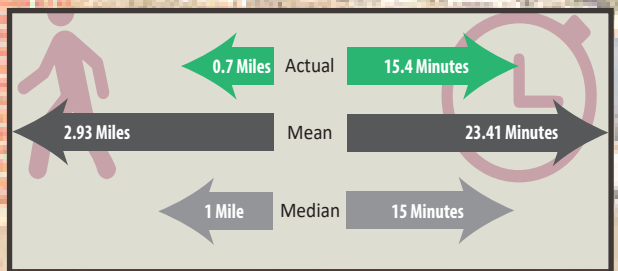


Figure 41. Reasons Respondent Would Not Walk to Riverside Park (n=87)

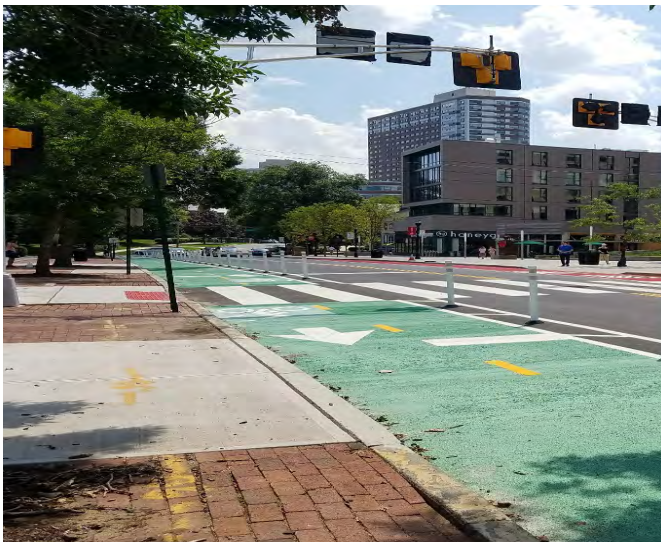
III. University Survey Locations

The survey was distributed at busy locations on the Camden, Newark, and New Brunswick campuses, with two survey locations on the New Brunswick campus. Respondents on the campuses were particularly receptive to the survey.

Camden Campus

Newark Campus

New Brunswick Campus



College Avenue Campus

Busch Campus

Rutgers University, Camden

Surveys were distributed outside of the Rutgers University Camden Campus Center (see Figure 42). The Campus Center is located in the northern outskirts of downtown Camden within two blocks of the Cooper Street Light Rail Station and City Hall. The area, though dense and providing a mix of uses, falls short of the "Walker's Paradise" rating and is instead considered "Very Walkable" with a score of 80 out of 100 on the Walk Score evaluation.[7] While the area is highly walkable for activities related to grocery shopping, education, and entertainment, it falls short in providing park and shopping accessibility, which detracts from the overall Walk Score. Still, the area was host to high volumes of pedestrian traffic, though mostly students. More than 200 survey respondents were asked to estimate the distance from the Campus Center to the Walter Rand Transportation Center and the Camden Waterfront Park.

Figure 42. Rutgers University, Camden Campus Survey Locations

The transportation center is 0.6 miles away from the survey location which translates to an eleven-minute walk. Along the route, a pedestrian would cross the Camden Campus along off-road pathways before crossing Lawrence Street, a narrow one-way road cutting through the campus that lacks a crosswalk. Pedestrians would then turn onto Cooper Street, a four-lane roadway with a landscaped median. Sidewalks and clearly marked crosswalks are available along the remainder of the route, as pedestrians pass a variety of businesses and bus stops. Camden Waterfront Park is one mile away and the walk takes approximately 20 minutes. Pedestrians follow a campus path until 3rd Street which has wide sidewalks, faded crosswalks and a number of vacant businesses (see Figure 43). Pedestrians would then turn onto Market Street, a two-lane roadway with wide sidewalks and mature trees, and proceed to the greenway which provides an off-street trail to the main section of the park. Respondents in the area were more accurate at estimating the distances than in the municipal surveys, but there is still little improvement in answers among those more familiar with the area (see Figure 44).

Figure 43. Vacant Businesses Along Third Street in Camden (Source: Google Street View)

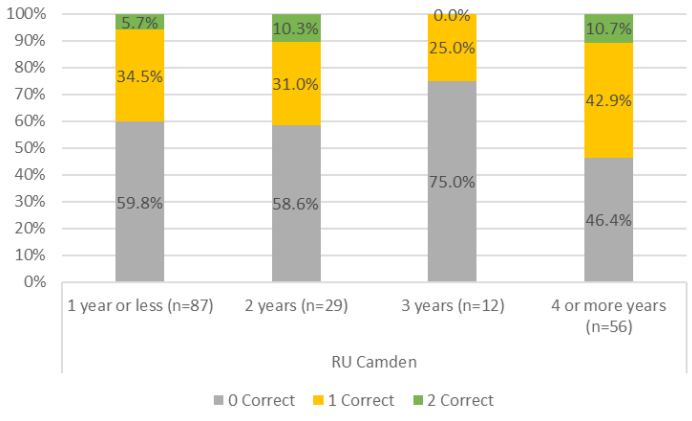
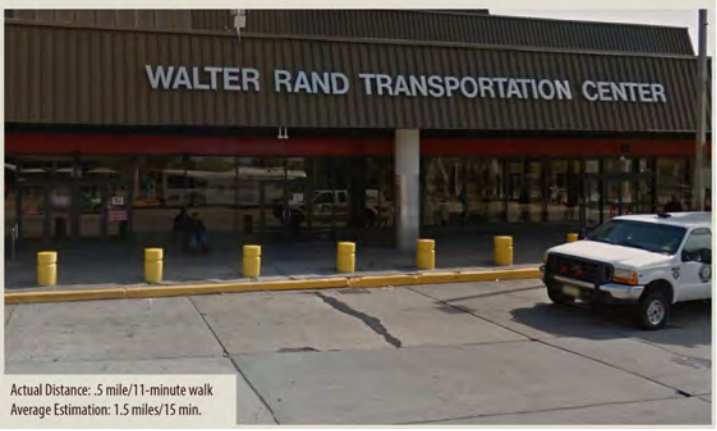


Figure 44. Accuracy of Estimations by Years of Familiarity with the Area

7 https://www.walkscore.com/score/326-penn-st-camden-nj-08102

Location 1: Walter Rand Transportation Center



Approximately one in four respondents would travel the six blocks to the Walter Rand Transportation Center by car (26%, as shown in Figure 45) while two in three respondents (66%) would walk to the transportation center. Only one in seven respondents (14.6%) accurately estimated the distance to the transportation center, with more than three in four respondents overestimating the distance (77.5%). Respondents provided a mean of 1.51 miles and a median of 2.51 miles. Respondents were more likely to accurately estimate the time it would take to walk to the train station, with three in ten respondents accurately estimating the time (30.5%) and 50 percent overestimating the time (as shown in Figure 46). The mean and median value for the estimated minutes walking were 15.57 minutes and 14 minutes respectively. A majority of respondents estimated a distance at least twice as long as the actual route, with a number of respondents reporting a distance of four miles or greater (see Figure 47). Weather was the most commonly reported reason for not walking to the transportation center during the day (45.4%), while fear of crime was the most commonly cited reason for not walking there at night (59%), as shown in Figure 48.

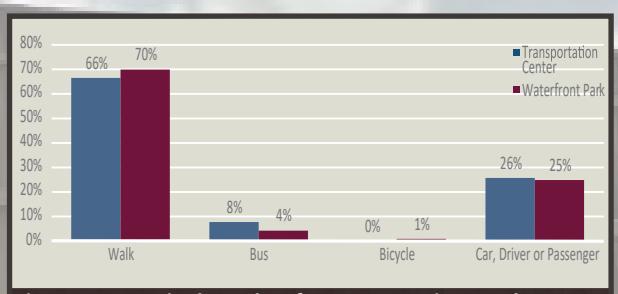


Figure 45. Typical Mode of Transportation to the Transportation Center & Waterfront Park from Survey Location (n=205)

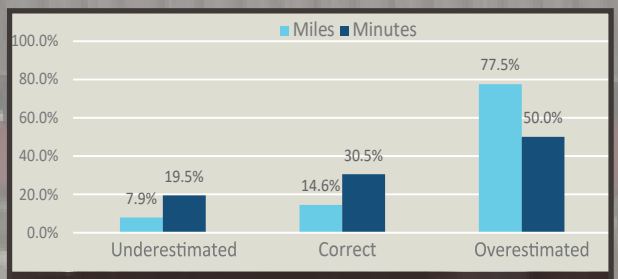


Figure 46. Accuracy of Estimations in Miles (n=151) & Minutes (n=154) to Transportation Center

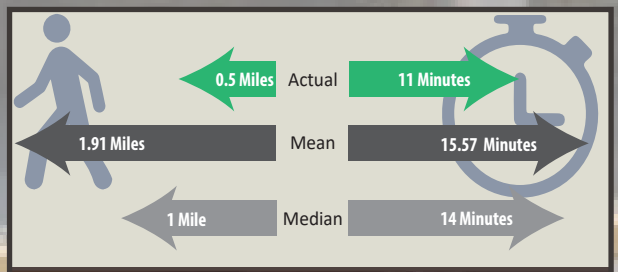


Figure 47. Respondent Estimations, Distance to the Transportation Center (n=151)

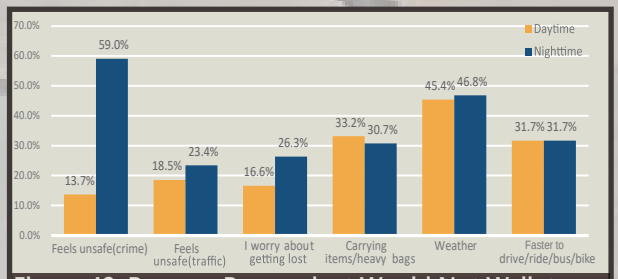


Figure 48. Reasons Respondent Would Not Walk to the Transportation Center (n=205)

Location 2: Waterfront Park

The route to Waterfront Park takes pedestrians through an area riddled with vacancies (see Figure 43) before arriving at the protected greenway that leads to the park (pictured above). Still, seven in ten respondents (70%) would walk to Waterfront Park, while one in four would use a car (25%), as shown in Figure 45. Waterfront Park received one of the lowest proportions of accurate distance estimations of all seven locations, with only 3.6 percent of respondents providing an accurate estimate (see Figure 49). More than two in three respondents (66.7%) overestimated the distance to the park. The mean estimated distance was 1.6 miles—double the actual distance—while the median distance provided by respondents was one mile. Most respondents provided an estimate less than two miles (see Figure 50). Significantly more respondents were able to accurately estimate the time it would take to walk to the park (32%), with 58.7 percent of respondents underestimated the time. Respondents provided a mean walking time of 13.6 minutes and a median walking time of ten minutes. Respondents most often noted they would not walk to the park because of weather (50.7% during the day and 50.2% at night), as shown in Figure 51). The second most commonly cited reason for not walking to the park was fear of crime, which garnered only 9.8 percent of responses for daytime and nearly half for nighttime (49.8%).

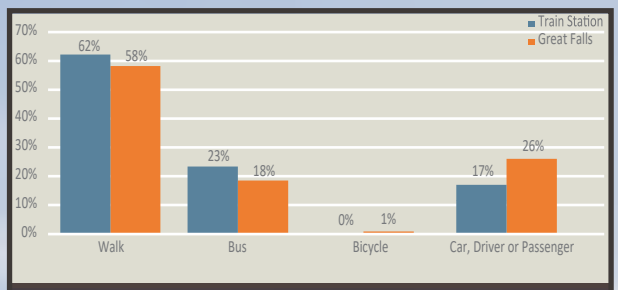


Figure 49. Accuracy of Estimations in Miles & Minutes to Waterfront Park (miles n=168; minutes n=172)

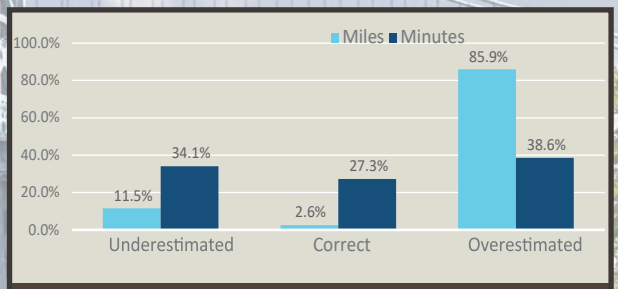


Figure 50. Respondent Estimations, Distance to Waterfront Park (n=166)

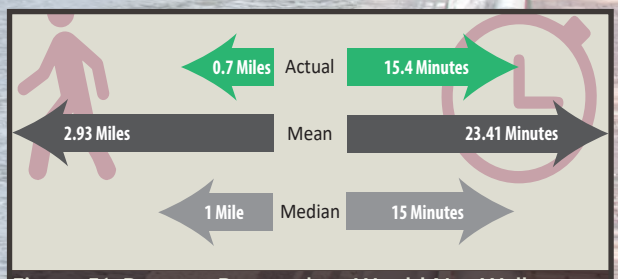


Figure 51. Reasons Respondent Would Not Walk to Waterfront Park (N=205)

Rutgers University, New Brunswick, Busch Campus

Figure 52. Rutgers University, New Brunswick, Busch Campus Survey Locations

Busch Campus, though only minutes from College Avenue, provides a stark contrast in terms of density as compared to the College Avenue Campus. While College Avenue is situated in a dense and walkable urban setting, Busch Campus, designed in the sprawling manner typical of 1960's development, is significantly more car-dependent. Surveys were distributed at the Busch Campus Student Center. The adjacent bus stop and the attached dining hall attracted large crowds of students throughout the day, but particularly at lunch time. Respondents were asked to estimate the distance from the Student Center to High Point Stadium and the Psychology/Pharmacy/Physics buildings (see Figure 52). The campus' low-density design and limited access to restaurants, shopping and parks, earned the area a Walk Score of 48 out of 100 and designation as "Car-Dependent."[8]

Respondents were asked to estimate the distance to High Point Stadium and a cluster of classroom buildings housing the psychology and pharmacy departments (see Figure 52). High Point Stadium is located 0.9 miles and 19 minutes from the survey location. Pedestrians remain on campus for the entirety of the route, which winds mostly through open fields, passing the Sonny Werblin Recreation Center. The route is complete with crosswalks at every street crossing, however, the sidewalk ends shortly after the intersection with Frelinghuysen Road, forcing pedestrians to walk in the shoulder until arriving at the stadium. The route to the Psychology building is also entirely within Busch Campus, and proceeds down Bartholomew road before crossing through a large parking lot which has a notable absence of pedestrian infrastructure. The remainder of the walk follows wide campus pathways before crossing Allison Road at a clearly marked crosswalk in front of the building. In contrast to the previously discussed locations, respondents on Busch Campus provided more accurate estimations the longer they were familiar with the area (see Figure 53).

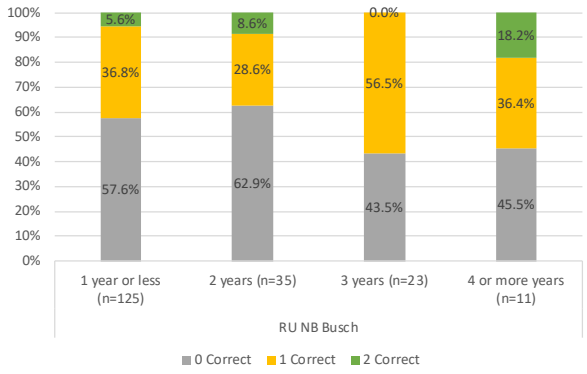
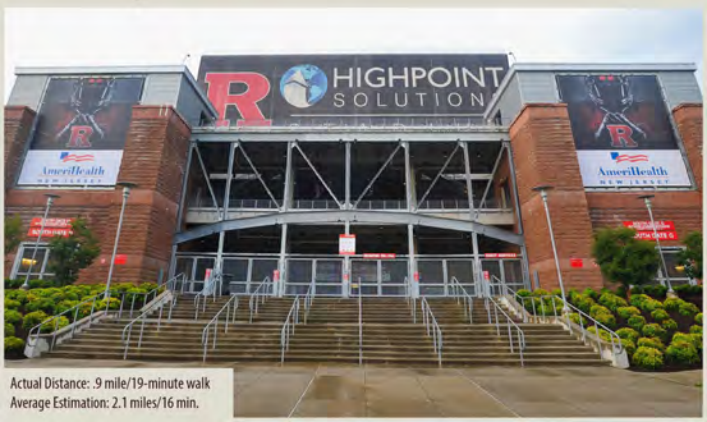


Figure 53. Accuracy of Estimations by Years Familiar with the Area

8 https://www.walkscore.com/score/604-bartholomew-rd-piscataway-township-nj-08854

Location 1: High Point Stadium



More than half of respondents would travel to the stadium via bus (51%) while 39 percent would walk to the stadium (see Figure 54). It is important to note, however, that surveyors were situated just a few steps from the bus stop, which may have influenced respondents' answers. Additionally, bus service on campus is free. Fewer than one in ten respondents (8%) reported taking a car to reach the stadium. More than one in four respondents accurately estimated the distance to the stadium (30%), while more than half of respondents overestimated the distance (52.7%), as shown in Figure 55. Respondents provided a mean of 2.11 miles, more than twice the actual distance, and a median of 1.24 miles. Respondents were not able to more accurately estimate the walking time to the stadium, with only one in five respondents providing an accurate estimate (24.9%). More than half of respondents underestimated the time it would take to walk (57.8%). Respondents provided a mean walking time of 16.69 and a median of 15 minutes, both of which fall short of the actual walking time by approximately four to five minutes. A significant number of respondents estimated that the stadium was more than one mile away (see Figure 56) A majority of respondents reported not walking to the stadium because of faster alternatives (57.6% during the day and 50% at night), as shown in Figure 57. Weather was the second most commonly reported reason for not walking to the stadium (54.9% during the day and 52.3% at night).

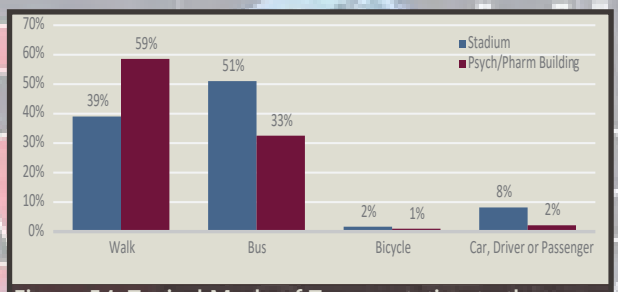


Figure 54. Typical Mode of Transportation to the Stadium (n=292) & the Psychology/Pharmacy Building (n=275) from Survey Location

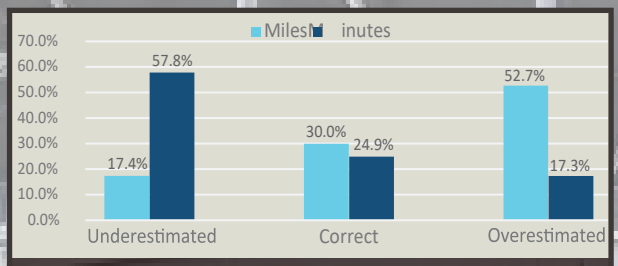


Figure 55. Accuracy of Estimations in Miles (miles n=207) and Minutes (n= 225) to Stadium

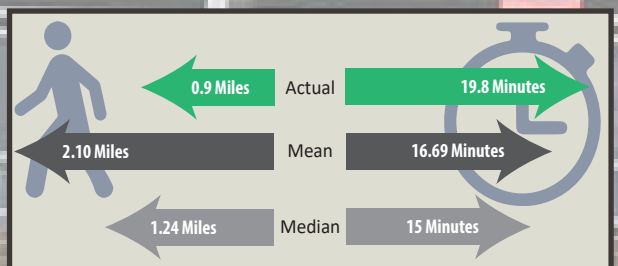


Figure 56. Respondent Estimations, Distance to the Stadium (n=206)

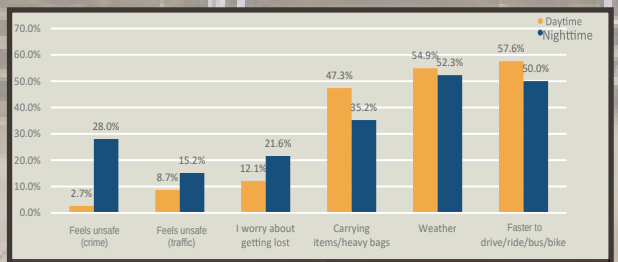


Figure 57. Reasons Respondent Would Not Walk to the Stadium (n=264)

Location 2: Psychology/Pharmacy Buildings

Respondents were much more likely to state they would walk to the classroom buildings than to the stadium, with nearly two in three respondents reporting as such (59%), as shown in Figure 54. Only 1.6 percent of respondents were able to accurately estimate the distance to the classroom buildings and nearly three in five respondents overestimated the distance (48.7%), as shown in Figure 58. Respondents greatly overestimated the distance to the buildings, providing a median of one mile and a mean distance of 1.3 miles, more than three times longer than the actual distance of 0.4 miles. A number of respondents estimated a distance of three miles or more (see Figure 59). Respondents were significantly more accurate when estimating the time it would take to walk to the classroom buildings, with nearly two in five respondents accurately estimating (39%) and less than half of respondents overestimating (48.7%). The mean and median time values by the respondents were 12.32 minutes and 10 minutes respectively. Weather and having faster alternatives were the two most commonly reported reasons for not walking to the classroom buildings (see Figure 60).

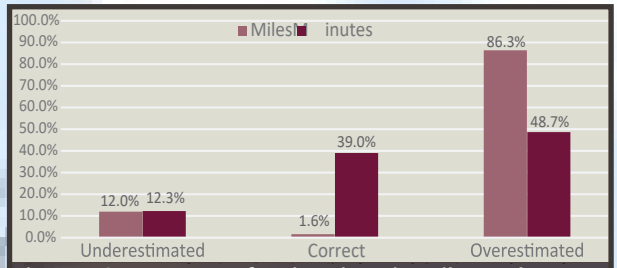


Figure 58. Accuracy of Estimations in Miles and Minutes to Psych/Pharmacy Buildings (miles n=183; minutes n= 187)

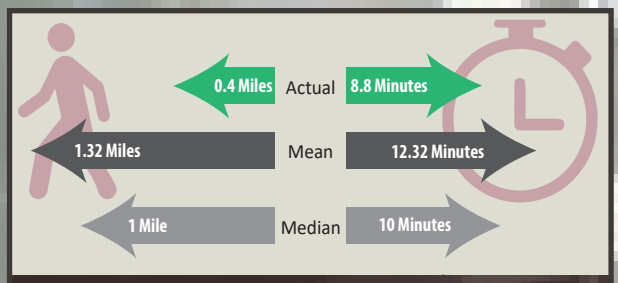


Figure 59. Respondent Estimations, Distance to Psych/ Pharm Buildings (n=182)

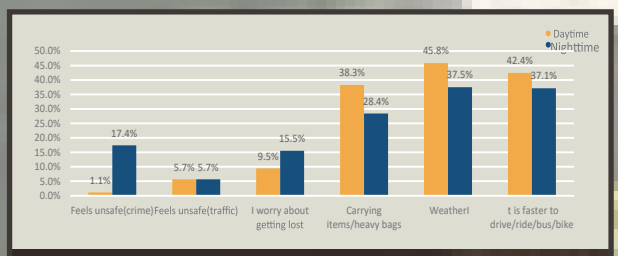


Figure 60. Reasons Respondent Would Not Walk to the Psych/Pharm Buildings (n=264)

Rutgers University, New Brunswick, College Avenue Campus

Surveys were distributed at the Yard, a small urban plaza including student dormitories, ground-level retail establishments, and a heavily used bus stop (see Figure 62). The Yard is located at the southern end of College Avenue, the campus' main corridor with a variety of classroom buildings, living quarters, and restaurants. College Avenue is also well served by a new two-way bicycle lane, dedicated bus lane, and wide sidewalks that accommodate hundreds of students traveling to the large classroom buildings nearby (see Figure 61).

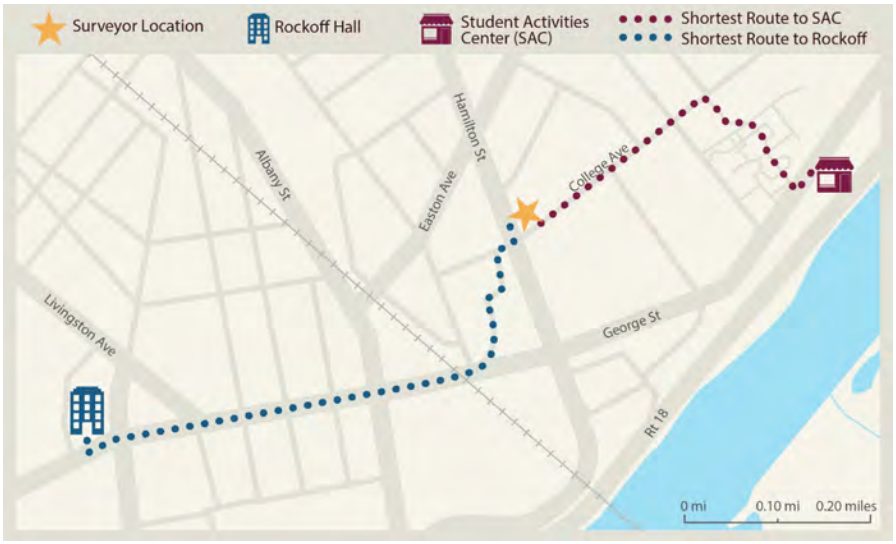


Figure 61. Rutgers University, New Brunswick, College Avenue Campus Survey Locations

The survey location was a short distance from the New Brunswick train station and downtown New Brunswick. The area is ranked as a "Walker's Paradise" and provides easy pedestrian access to everything from errands to parks and entertainment earning a Walk Score of 95 out of 100.[9] The survey location was host to continuously high volumes of pedestrian traffic, though mostly students. Nearly 300 survey respondents were asked to estimate the distance from the Yard to Rockoff Hall and the Student Activities Center.

Respondents were asked to estimate the distance to Rockoff Hall and the Student Activities Center (the SAC). Rockoff is located 0.7 miles away from the survey location which translates to a 16-minute walk. The shortest route crosses Hamilton Street at a designated crosswalk and proceeds through off-road campus paths near Kirkpatrick Chapel before emerging onto George Street, a small, but heavily trafficked main street through New Brunswick's commercial center. Clearly marked crosswalks and large sidewalks are provided along the entirety of the route. The SAC is located 0.5 miles from the Yard, which translates to approximately 11 minutes of walking. The route requires pedestrians to walk along College Avenue, where sidewalks are approximately 25 feet wide, crosswalks are clearly marked, and on-street parking has been replaced by a dedicated bicycle lane. The shortest route proceeds from College Avenue and onto off-road pathways through campus before crossing George Street at a signalized crosswalk. Respondents living in the area for at least two years were more likely to accurately estimate at least one distance (see Figure 63).

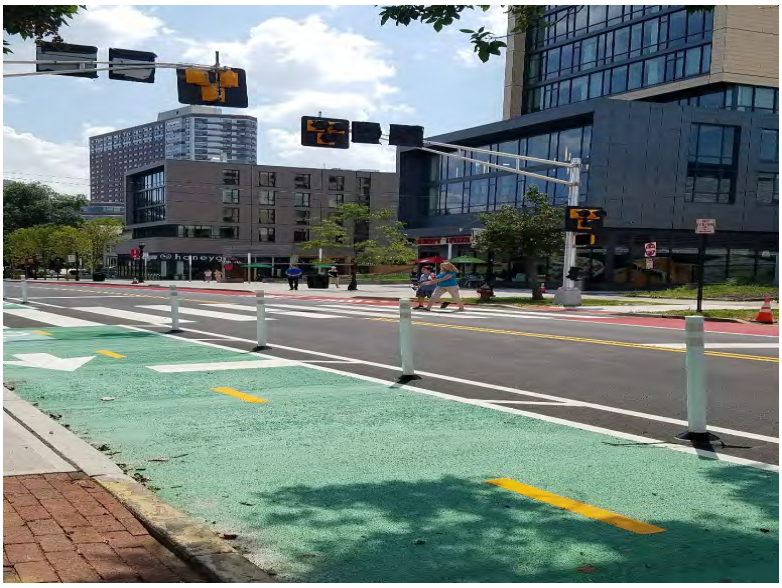


Figure 62. College Avenue's New Bicycle and Pedestrian Improvements (Source: BPRC)Locations

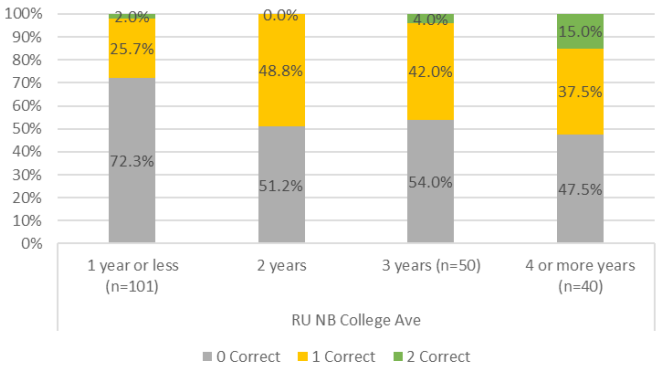


Figure 63. Accuracy of Estimations by Years Familiar with the Area

9 https://www.walkscore.com/score/40-college-ave-new-brunswick-nj-08901

Location 1: Rockoff Hall

More than half of respondents reported traveling to Rockoff Hall via bus (55%, as shown in Figure 64), while just over one in three respondents (36%) reported walking the 0.7 mile trip. Only six percent of respondents accurately estimated the distance to Rockoff Hall, with more than three in four respondents overestimating the distance (76.5%), as shown in Figure 65. Respondents provided a mean of 2.2 miles and a median of 1.2 miles, with a number of respondents estimating two miles or more (see Figure 66). Respondents were more likely to accurately estimate the time it would take to walk to Rockoff Hall, with more than one in four respondents accurately estimating the time (27.6%), as shown in Figure 65. The mean and median value for the estimated minutes walking were 15.61 minutes and 15 minutes, respectively. Respondents were most likely to not walk to Rockoff during the day due to faster alternatives (46.9%), while fear of crime was the most commonly cited reason for not walking there at night (42.1%), as shown in Figure 67.

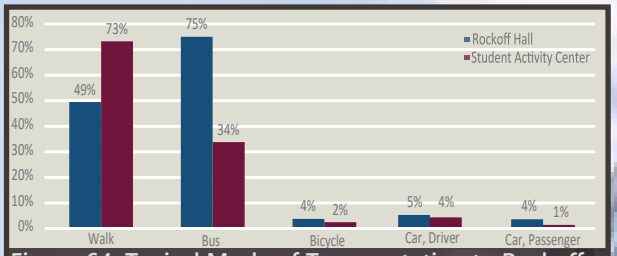


Figure 64. Typical Mode of Transportation to Rockoff (n=253) & the Student Activities Center (n=290) from Survey Location

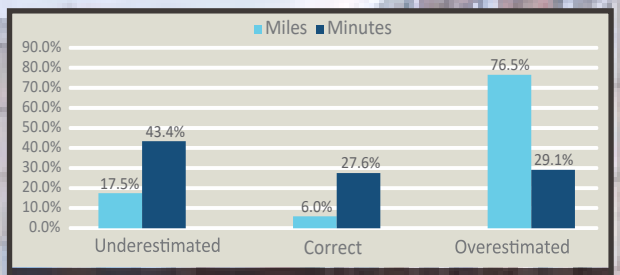


Figure 65. Accuracy of Estimations in Miles & Minutes to Rockoff Hall (miles n=166; minutes n=196)

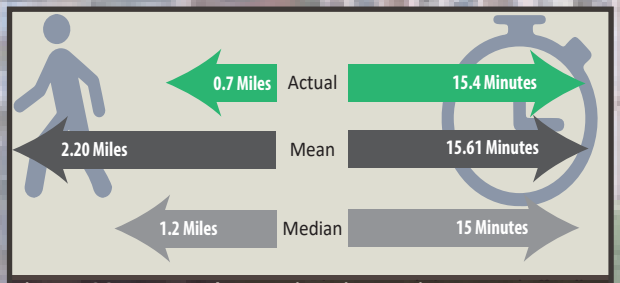


Figure 66. Respondent Estimations, Distance to Rockoff (n=163)

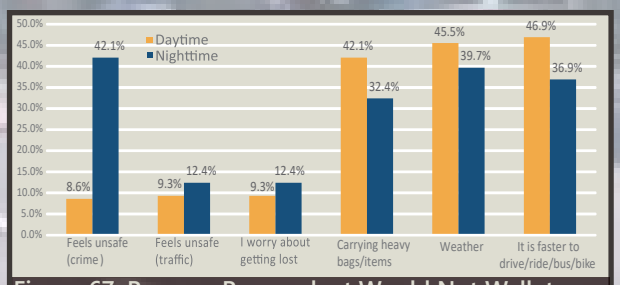


Figure 67. Reasons Respondent Would Not Walk to Rockoff Hall (n=290)

Location 2: Student Activities Center

The route to the Student Activities Center is ideal for walking, providing a wealth of pedestrian amenities and travelers remain on campus for the entirety of the route. Still, more than one in three respondents would ride the bus (38%) to the SAC and more than four in five respondents (82%) would walk, as shown in Figure 64. More than one in three respondents accurately estimated the distance to the SAC (35.7%), with approximately two in five overestimating the distance (42%), as shown in Figure 68. Respondents provided a mean estimate of 1.85 miles, more than triple the actual distance, and a median of 0.5 miles. Still, a significant proportion of responses clustered around the accurate distance to the SAC (see Figure 69). Roughly the same percentage of respondents were able to accurately estimate the time it would take to walk to the SAC (29.8%), with more than half of respondents underestimating the walking time (57.9%). Respondents provided a mean walking time of 9.95 minutes and a median of 7.5 minutes, both of which fall short of the actual 11-minute walking time. Weather was the most commonly noted reason for not walking to the SAC, regardless of time of day. Approximately one in four respondents noted not walking to the SAC because it is slower than the alternatives (see Figure 70).

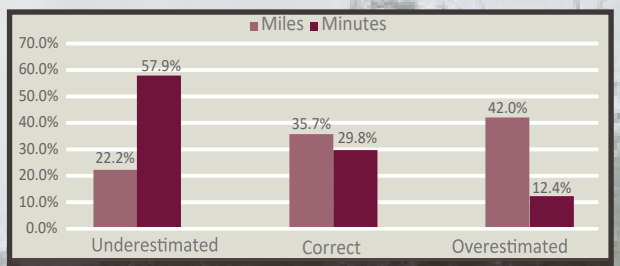


Figure 68. Accuracy of Estimations in Miles (n=207) & Minutes (n=242) to the SAC

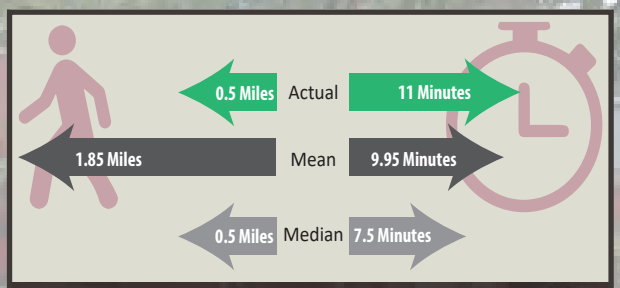


Figure 69. Respondent Estimations, Distance to the SAC (n=203)

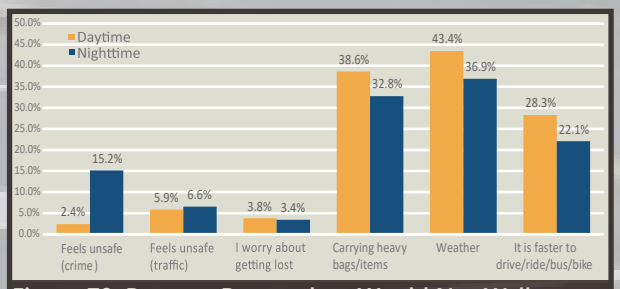


Figure 70. Reasons Respondent Would Not Walk to the Student Activities Center (n=290)

Rutgers University, Newark

Figure 71. Rutgers University, Newark Campus Survey Locations

Surveys were distributed on the Newark Campus of Rutgers University at the Student Center located in the University Heights section of Newark. The campus occupies just a few city blocks and is situated across from the New Jersey Institute of Technology, Saint Michael's Medical Center, and the Essex County Community College. The campus is serviced by several bus stops and is about two blocks away from the Washington Street Light Rail Station. It is minutes from Newark's busy downtown business district. The campus' urban location with access to parks, entertainment, and shops earns the location the designation of "Walker's Paradise" and its high accessibility via public transit earns the location designation as a "Rider's Paradise."[10] Respondents were asked to estimate the distance from the Student Center to Newark Pennsylvania Station and the New Jersey Performing Arts Center (NJPAC), as shown in Figure 71.

The Campus Center is located on Dr. Martin Luther King Jr. Boulevard which is a major commercial corridor in Newark. Respondents were asked to estimate the distance from the Campus Center to the New Jersey Performing Arts Center and Newark Penn Station. The NJPAC is located 0.6 miles or 13 minutes from the survey location. The walking route follows campus pathways before crossing Washington Street, a three-lane single-directional roadway with parking on both sides and a dedicated bicycle lane, to reach New Street. New Street is a single lane roadway with wide sidewalks which is taken to Broad Street, a highly trafficked six-lane roadway with a 50-foot crosswalk that is brick-stamped and highly visible. From there pedestrians can walk along the pathways in Military Park before crossing four lanes of traffic on Park Place to reach the NJPAC. The shortest pedestrian route from the survey location to Newark Penn Station is one mile, or a 23-minute walk. The route utilizes campus pathways before exiting onto University Avenue, which though busy with traffic, provides highly visible brick-stamped crosswalks. Pedestrians then turn on Raymond Boulevard, which is similarly busy and with clearly marked crosswalks along the entirety of the route to the station. Just before reaching the station, pedestrians must cross eight lanes of traffic along a 100-foot crosswalk at the intersection of Raymond Boulevard and McCarter Highway (see Figure 72). Surveys were collected from nearly 300 respondents, with little distinction in accuracy of estimations among respondents who were familiar with the area compared to this with less familiarity (see Figure 73).

Figure 72. Pedestrian Crossing the Intersection of Market Street and McCarter Highway (Source: Google Street View)

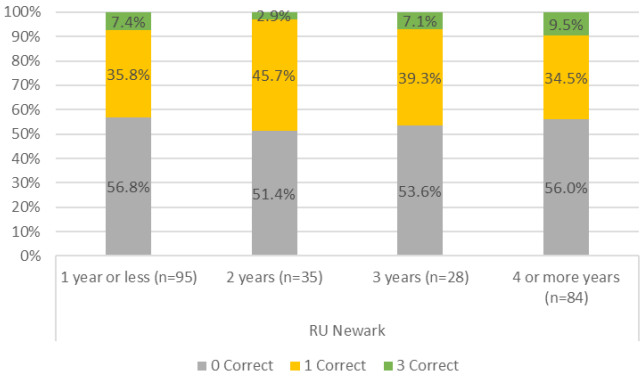


Figure 73. Accuracy of Estimations by Years Familiar with the Area

10 https://www.walkscore.com/score/350-doctor-martin-luther-king-junior-blvd-newark-nj-07102

Location 1: New Jersey Performing Arts Center

More than half of respondents would walk to the NJPAC (55%) while nearly as many (44%) would use a car for the 0.6-mile trip (see Figure 74). Several respondents also wrote-in that they would use the light rail, an out-of-the-way 0.3-mile walk. Less than one in ten respondents accurately estimated the distance in miles to the NJPAC (12.3%), while more than four in five overestimated distance (83.9%), as shown in Figure 75. The average distance estimated was 1.6 miles, with more than one quarter of respondents providing an estimate over 2.5 miles (see Figure 79). Approximately twice as many respondents were able to accurately estimate the time it would take to walk to the NJPAC (19.2%). However, more than half of respondents overestimated the walking time (55.7%), unlike other locations where significant proportions of respondents underestimated walking time. Respondents provided a mean walking time of 19.87 minutes and a median of 20 minutes, more than 50 percent greater than the actual 13-minute walking time. As shown in Figure 77, carrying heavy items (47%) and weather (48%) were the most common reasons cited for not walking to the NJPAC during the day. At night, more than two in three respondents cited not walking to the NJPAC due to crime (66%).

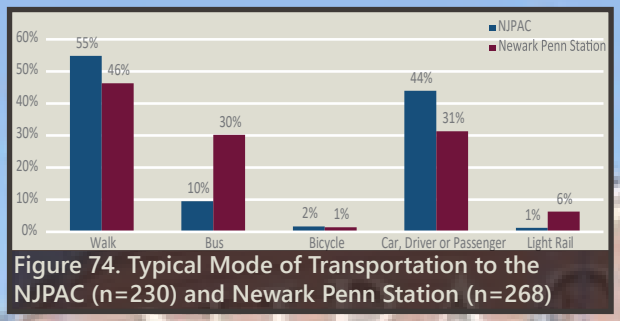


Figure 74. Typical Mode of Transportation to the NJPAC (n=230) and Newark Penn Station (n=268)

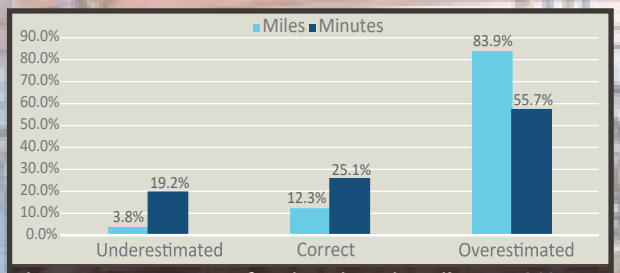


Figure 75. Accuracy of Estimations in Miles (n=211) and Minutes (n=219) to NJPAC

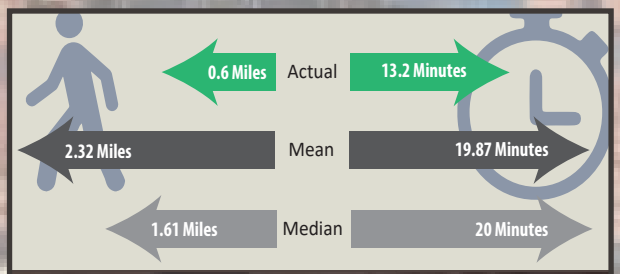


Figure 76. Respondent Estimations, Distance in Miles to the NJPAC (n=209)

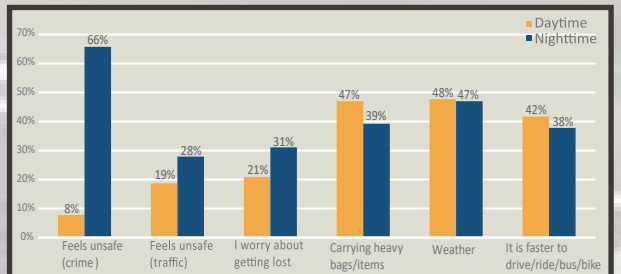


Figure 77. Reasons Respondent Would Not Walk to the NJPAC (n=283)

Location 2: Newark Penn Station

Respondents were about as likely to prefer walking to Newark Penn Station as they were to NJPAC, with 54 percent of respondents noting walking as a mode of choice (see Figure 74). However, many more respondents reported taking the bus to Newark Penn Station (35%). Still, one in three respondents reported using a car for the one-mile trip. Nearly one in three respondents accurately estimated the distance (30%), with 57.8% overestimating (see Figure 78). Respondents provided a mean distance of 2.26 miles, more than twice the actual one-mile distance, and a median of 1.5 miles. A number of respondents provided estimates of five miles or more (see Figure 79). Respondents were slightly more accurate when estimating the time it would take to walk to Newark Penn Station (36.2% accurately estimated). Nearly half of respondents underestimated the walking time (45.1%). Respondents provided a mean and median walking time of 20 minutes, which was close to the actual 22-minute walking time. During the day, carrying heavy bags was the most cited reason for not walking to the station (50%), while crime was the most often cited reason for not walking at night (76%), as shown in Figure 80.

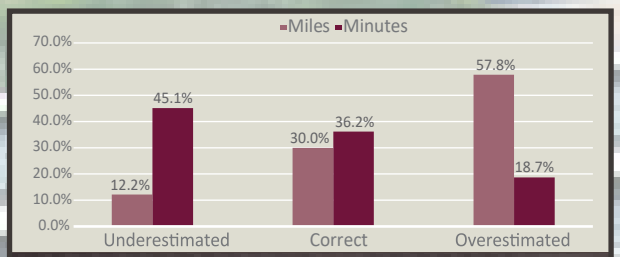


Figure 78. Accuracy of Estimations in Miles (n=230) and Minutes (n=246) to Newark Penn Station

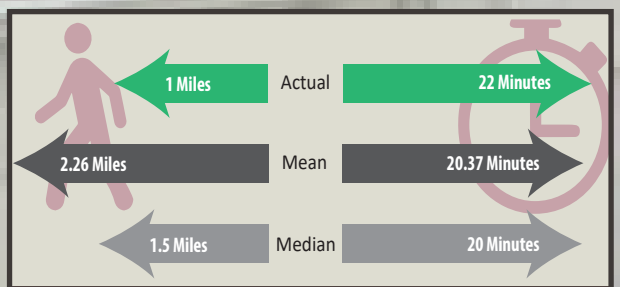


Figure 79. Respondent Estimations, Distance to Newark Penn Station (n=232)

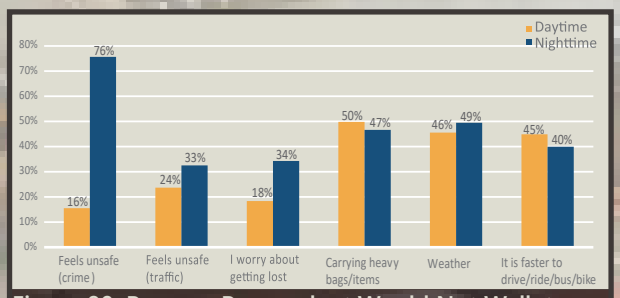


Figure 80. Reasons Respondent Would Not Walk to Newark Penn Station (n=283)

IV. Policy Recommendations

1. Wayfinding to promote walking: Many respondents overestimated the distance to the given locations. Pedestrian oriented wayfinding signs including walking times could help residents realize actual distances and walk more regularly. Wayfinding signage is commonly used for motor vehicle traffic and has largely been targeted to foot traffic only in historic areas and on hiking trails. Recently, however, wayfinding programs have cropped up in urban areas around the country and the world. These pedestrian-oriented signs began as programs in cities such as London and New York as a way of helping pedestrians maintain their bearings and understand their proximity to landmarks and other areas within their city (see Figure 81). Wayfinding signs have proven to be exceptionally helpful for visitors to these areas, as well. Evaluation of the London program, Legible London, has increased pedestrian's ability to find their way around, including finding shortest routes and increasing their willingness to explore.[11] Program evaluations have also revealed that the signs, which provide heads up maps as well as distances, have increased pedestrian traffic in surrounding areas. Locally, Montclair and Newark have begun efforts to implement wayfinding programs to encourage new pedestrian traffic in their downtown areas. Implementing pilot programs in targeted locations throughout the state, coupled with program evaluations, could encourage local municipalities and counties to embrace similar programs.

Figure 81. WalkNYC's wayfinding signage provides walking times and helpful orientation information. (Source: AIGA, 2014)

2. Encourage walking through community events: Many respondents are not walking as their main form of transportation in walkable areas that provide highly rated pedestrian amenities. Instead many respondents are driving or utilizing public transportation, even in areas with high quality pedestrian infrastructure. Normalizing and encouraging walking through community programs can impact everyday habits. In New Brunswick, Ciclovia events are held multiple times a year, closing down main streets and encouraging participants to walk through areas of the city they do not usually visit. It has been successful in attracting large crowds and has encouraged participants to utilize more active transportation in their everyday lives (find Ciclovia program evaluations at njbikeped.org). Similar programs are run in cities throughout the country and are easily replicable in communities of all shapes and sizes. Promoting regularly-occurring and large scale events that highlight and encourage active transportation can influence the transportation habits of New Jersey's residents.

11 http://content.tfl.gov.uk/legible-london-evaluation-summary.pdf, 7

V. Conclusions

The survey sought to understand the travel modes respondents reported they would use to reach walkable destinations and how these decisions might be affected by perceptions of distance and time, as well as general travel habits. Overall, respondents were most likely to underestimate the time it would take to walk to a nearby location, yet a significant number of respondents reported they would use a car or public transportation. Respondents who knew the area for more than four years were only slightly better at estimating the distances suggesting that even getting to know an area may not increase understanding of the area's walkable locations. These findings support research that suggest habits are heavily at play in transportation decisions and efforts to promote walking throughout the state should include policies that target these habits. This report is the result of a preliminary analysis. Additional analyses will be interpreted from the data in 2018, as researchers seek to better understand what influences misperceptions of distance and walking times.

Figure 82. Pedestrians walking in various locations throughout Paterson, New Jersey.

Appendix

Paterson Train Station

Source: Javier Baires

1. From here, how would you typically get to and return from the Paterson Train Station?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is the Paterson Train Station?

Miles:_____ or km:_____

3. From here, based on your experience, how long does it take to walk to the Paterson Train Station?

Minutes (walking):_____

4. Are there any reasons you would NOT walk to the Paterson Train Station….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

Great Falls

5. From here, how would you typically get to and return from Great Falls?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is Great Falls?

Miles:_____ or km:_____

7. From here, based on your experience, how long does it take to walk to Great Falls?

Minutes (walking):_____

8. Are there any reasons you would NOT walk to Great Falls….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
- ❑ 75 or older

17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

Red Bank Train Station

Source: Christopher Occhicone

1. From here, how would you typically get to and return from the Red Bank Train Station?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is the Red Bank Train Station?

Miles: _____ or km: _____

3. From here, based on your experience, how long does it take to walk to the Red Bank Train Station?

Minutes (walking): _____

4. Are there any reasons you would NOT walk to the Red Bank Train Station….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

Riverside Gardens Park

Source: Jazz Guy, Flickr

5. From here, how would you typically get to and return from Riverside Gardens Park?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is Riverside Gardens Park?

Miles: _____ or km: _____

7. From here, based on your experience, how long does it take to walk to Riverside Gardens Park?

Minutes (walking): _____

8. Are there any reasons you would NOT walk to the Riverside Gardens Park….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

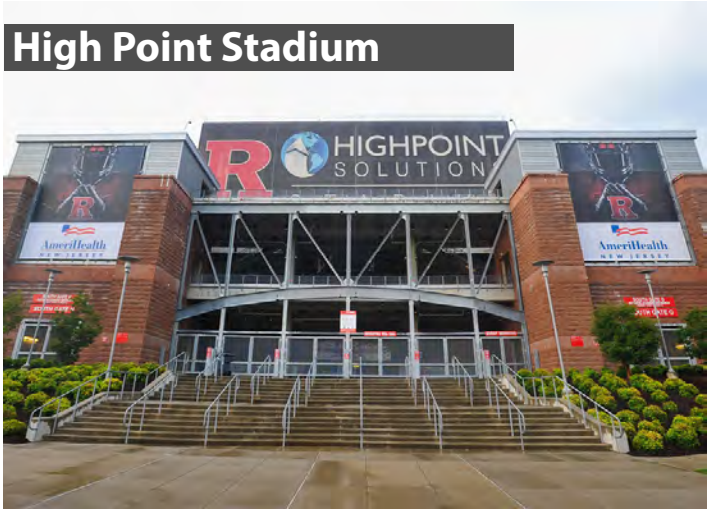
16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
- ❑ 75 or older

17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

High Point Stadium



1. From here, how would you typically get to and return from High Point Stadium?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is High Point Stadium?

Miles: _____ or km: _____

3. From here, based on your experience, how long does it take to walk to High Point Stadium?

Minutes (walking): _____

4. Are there any reasons you would NOT walk to High Point Stadium….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

Pharmacy/Psychology Buildings

5. From here, how would you typically get to and return from the Pharmacy/Psychology Buildings?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is the Pharmacy/Psychology Buildings?

Miles: _____ or km: _____

7. From here, based on your experience, how long does it take to walk to the Pharmacy/Psychology Buildings?

Minutes (walking): _____

8. Are there any reasons you would NOT walk to the Pharmacy/Psychology Buildings….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
- ❑ 75 or older

17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

Rockoff Hall

1. From here, how would you typically get to and return from Rockoff Hall?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is Rockoff Hall?

Miles: _____ or km: _____

3. From here, based on your experience, how long does it take to walk to Rockoff Hall?

Minutes (walking): _____

4. Are there any reasons you would NOT walk to the Rockoff Hall….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

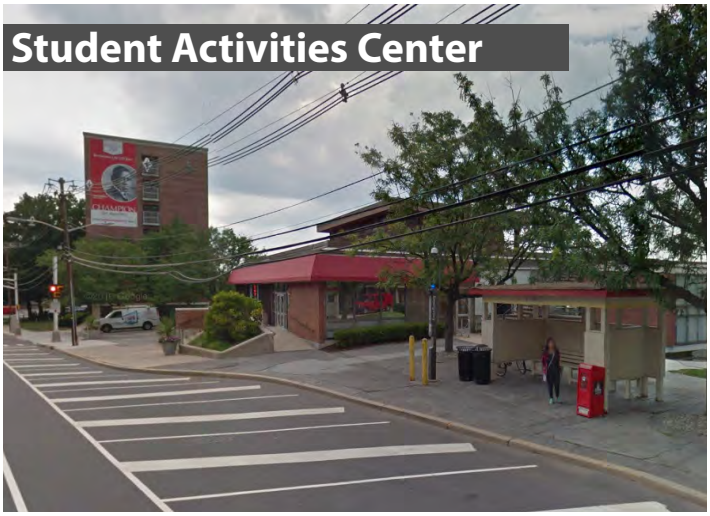
Other (during daytime): _____

_____

Other (at night): _____

_____

Student Activities Center



5. From here, how would you typically get to and return from the Student Activities Center?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is the Student Activities Center?

Miles: _____ or km: _____

7. From here, based on your experience, how long does it take to walk to the Student Activities Center?

Minutes (walking): _____

8. Are there any reasons you would NOT walk to the Student Activities Center….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
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17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

NJ Performing Arts Center

Source: TripAdvisor

1. From here, how would you typically get to and return from the NJ Performing Arts Center?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is the NJ Performing Arts Center?

Miles:_____ or km:_____

3. From here, based on your experience, how long does it take to walk to the NJ Performing Arts Center?

Minutes (walking):_____

4. Are there any reasons you would NOT walk to the NJ Performing Arts Center….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

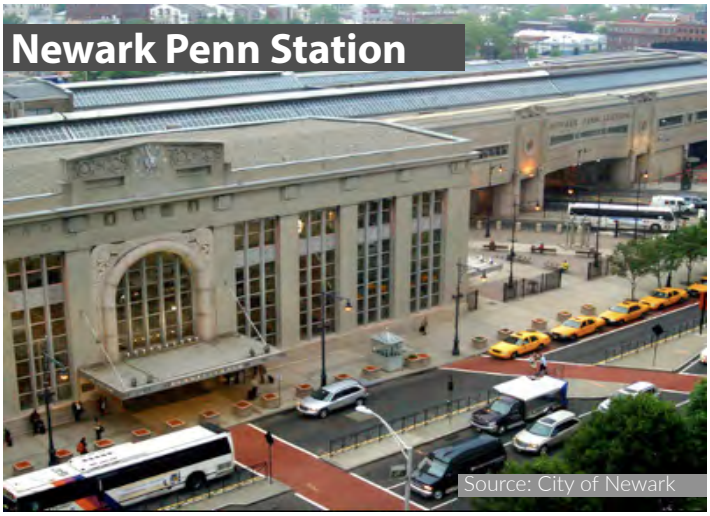
Other (during daytime): _____

_____

Other (at night): _____

_____

Newark Penn Station


Source: City of Newark

5. From here, how would you typically get to and return from Newark Penn Station?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is Newark Penn Station?

Miles:_____ or km:_____

7. From here, based on your experience, how long does it take to walk to Newark Penn Station?

Minutes (walking):_____

8. Are there any reasons you would NOT walk to Newark Penn Station….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

_____

Other (at night): _____

_____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
- ❑ 75 or older

17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

Haddonfield PATCO Station

Source:Google Street View

1. From here, how would you typically get to and return from the Haddonfield PATCO Station?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is the Haddonfield PATCO Station?

Miles:_____ or km:_____

3. From here, based on your experience, how long does it take to walk to the Haddonfield PATCO Station?

Minutes (walking):_____

4. Are there any reasons you would NOT walk to the Haddonfield PATCO Station….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

Other (at night): _____

Challenge Grove Park

Source: ERA Central Realty Group

5. From here, how would you typically get to and return from Challenge Grove Park?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is Challenge Grove Park?

Miles:_____ or km:_____

7. From here, based on your experience, how long does it take to walk to Challenge Grove Park?

Minutes (walking):_____

8. Are there any reasons you would NOT walk to Challenge Grove Park….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

Other (at night): _____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
- ❑ 25 - 34
- ❑ 35 - 44
- ❑ 45 - 54
- ❑ 55 - 64
- ❑ 65 - 74
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17. What was your household income for 2016?

- ❑ Under $15,000
- ❑ $15,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know

Walter Rand Transportation Center

1. From here, how would you typically get to and return from the Walter Rand Transportation Center?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

2. From here, based on your experience, how far away is the Walter Rand Transportation Center?

Miles:_____ or km:_____

3. From here, based on your experience, how long does it take to walk to the Walter Rand Transportation Center?

Minutes (walking):_____

4. Are there any reasons you would NOT walk to the Walter Rand Transportation Center….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

Other (at night): _____

Camden Waterfront Park

5. From here, how would you typically get to and return from the Camden Waterfront Park?

- ❑ Walk
- ❑ Bus
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Unfamiliar with location

6. From here, based on your experience, how far away is the Camden Waterfront Park?

Miles:_____ or km:_____

7. From here, based on your experience, how long does it take to walk to the Camden Waterfront Park?

Minutes (walking):_____

8. Are there any reasons you would NOT walk to the Camden Waterfront Park….

Reason	Daytime	Nighttime
Feels unsafe (crime)	❑	❑
Feels unsafe (traffic)	❑	❑
I worry about getting lost	❑	❑
Carrying items/heavy bags	❑	❑
Weather	❑	❑
It is faster to drive/ride bus/bike	❑	❑

Other (during daytime): _____

Other (at night): _____

7. How long have you been familiar with this area?

- ❑ 1 year or less
- ❑ 2 years
- ❑ 3 years
- ❑ 4 or more years

8. Where do you currently live?

City/State: _____

Zip code: _____

9. How do you typically get around in this area? (Select all that apply)

- ❑ Walk
- ❑ Bicycle
- ❑ Car, Driver
- ❑ Car, Passenger
- ❑ Public Transportation
- ❑ Other

10. How often do you walk outdoors for 5 minutes or more?

- ❑ Several times a day
- ❑ Once a day
- ❑ Once per week
- ❑ Several times a week
- ❑ Once per month
- ❑ Almost never

11. Do you own a car?

- ❑ Yes
- ❑ No

12. In your neighborhood, can you walk to a grocery store?

- ❑ No
- ❑ Yes, easily
- ❑ Yes, with difficulty (Please specify):

_____

_____

13. When you were young, how did you get to school? (Select all that apply)

- ❑ Walk
- ❑ School bus
- ❑ Bicycle
- ❑ Public transportation
- ❑ Car
- ❑ Other

14. What sex are you?

- ❑ Male
- ❑ Female
- ❑ Other

15. Which of the following describes you? (Select all that apply)

- ❑ White
- ❑ Asian
- ❑ Black or African American
- ❑ Native American
- ❑ Hispanic
- ❑ Other

16. What is your age?

- ❑ 18 - 24
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- ❑ 65 - 74
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- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,999
- ❑ $150,000 or more
- ❑ Don't know