

# MONTHLY ECONOMIC INDICATORS

Planning and Regional Development Department

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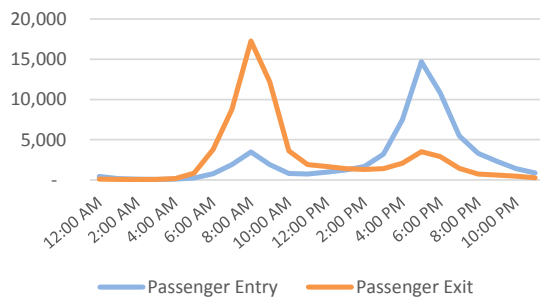
THE PORT AUTHORITY OF NY & NJ

August 2018

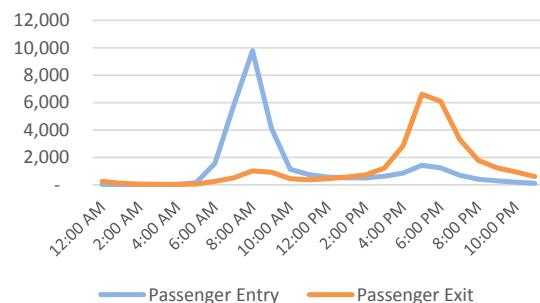
## Breaking from the Herd: How behavioral science can change peak travel congestion

PATH experiences a sharp peak in passenger demand during rush hours, creating crowded conditions for customers and slowing travel. A predominately commuter service, large portions of PATH riders travel between 8AM to 9AM. For instance, 26 percent of station exits at the World Trade Center occur between 8 and 9 AM. At the Hoboken station, nearly 32 percent of system entries occur during the same hour of the day. PATH is also a highly directional transit system, with a majority of riders traveling to New York in the morning and back to New Jersey in the evening, as illustrated in the figures below.

Average Weekday Demand-  
World Trade Center



Average Weekday Demand-  
Hoboken Station



The Port Authority is currently working to meet this demand with supply-side solutions that will add additional peak service. Upgrades to the signal system and communications based train control will provide

## THE WATCHLIST

Economic Variables		Current - One Year Trend	
UNITED STATES		Jul 2017 - Jul 2018	
Real GDP [Annual Rate]	Q2 2018	4.2%	
Unemployment Rate	Jul-18	0.0%	
Consumer Price Index [Annual]	Jul-18	2.9%	
Gasoline Price [Regular]	Jul-18	\$2.85	
PORT AUTHORITY REGION			
Regional Employment [NY MSA]	Jul-18	9,778	
Consumer Price Index [Annual]	Jul-18	2.2%	
Port District Exports [\$Bill]	Jun-18	\$12.29	
Port District Imports [\$Bill]	Jun-18	\$24.93	
Case-Shiller Home Price Index	Jun-18	3.9%	
Commercial Real Estate Asking Rent			
Midtown	Q22018	\$84.17	
Downtown	Q22018	\$66.47	

additional system capacity but it will not be feasible to run additional service until new railcars arrive in the early 2020s.

Still, future demand on both World Trade Center lines (Newark and Hoboken) is projected to challenge capacity constraints even with these upgrades in place. In the time leading up to their implementation, and even afterwards, initiatives to manage demand at the peak may provide solutions to overcrowding and improve the customer experience. As initially described in our May 2018 MEI, the PA would be following the example of other best-in-class organizations: Worldwide, transportation systems have applied lessons and insights from behavioral science when faced with capacity constraints. Publishing historic data on train crowding levels might be effective because riders may not realize when their route is most crowded. This is particularly true of new and occasional riders, but even commuters can be unaware that small changes in their schedule can improve their experience.

Transit authorities in London, San Francisco and Chicago have implemented this strategy and motivated riders with flexibility to adjust their commutes to avoid congestion.

*Transport for London (TfL)* put signs in crowded stations to indicate the stations' peak and identify the increased travel time during that window. Signs used data visualization to highlight increased ridership during the peak. Preparing for the 2012 Olympics, TfL suggested alternative travel plans to commuters. Individuals who found the new routes preferable tended to maintain them after the games.

*San Francisco BART* runs a mobile friendly website to deliver real time departures with historic congestion levels ("Heavy crowding", "Moderate crowding", "Light crowding"). This functions similarly to PATH's trip planner, but nudges riders to consider crowding levels when deciding when to travel.

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AVIATION	Jun '18	YTD	Jun '18/'17	YTD '18/'17	PORT COMMERCE	Jun '18	YTD	Jun '18/'17	YTD '18/'17
<b>Revenue Passengers (000's)</b>	<b>12,675.9</b>	<b>66,500.3</b>	<b>6.4%</b>	<b>4.2%</b>	<b>Port Trade</b>				
John F. Kennedy International Airport (JFK)	5,656.8	29,259.0	3.3%	2.2%	Container Imports (TEUs)	310,481	1,757,568	5.2%	7.8%
LaGuardia Airport (LGA)	2,762.9	14,460.4	4.6%	2.6%	Container Exports (TEUs)	129,505	756,389	6.0%	9.2%
Newark Liberty International Airport (EWR)	4,191.6	22,475.0	11.2%	7.6%	Containers lifted on/off Express Rail	54,706	315,011	7.9%	15.0%
Stewart International Airport (SWF)	64.6	306.0	114.7%	108.0%					
<b>Revenue Freight (Short Tons)</b>	<b>188,858</b>	<b>1,118,377</b>	<b>0.0%</b>	<b>5.0%</b>	<b>TUNNELS, BRIDGES &amp; TERMINALS</b>	<b>Jun '18</b>	<b>YTD</b>	<b>Jun '18/'17</b>	<b>YTD '18/'17</b>
Domestic	67,092	397,303	0.4%	5.9%	<b>Eastbound Vehicle Volumes (000's)</b>	<b>10,522</b>	<b>58,157</b>	<b>1.5%</b>	<b>0.9%</b>
International	121,766	721,074	-0.2%	4.5%	George Washington Bridge	4,535	24,997	1.1%	0.2%
<b>Flights</b>	<b>130,878</b>	<b>730,943</b>	<b>2.0%</b>	<b>1.3%</b>	Lincoln Tunnel	1,632	9,322	-0.2%	0.2%
Domestic Air Carrier	82,127	465,714	3.8%	2.9%	Holland Tunnel	1,298	7,256	2.1%	0.3%
International Air Carrier	26,905	147,955	1.1%	1.7%	Bayonne Bridge	284	1,411	18.3%	29.9%
General Aviation	21,846	117,274	-3.4%	-3.7%	Goethals Bridge	1,394	7,721	5.1%	2.0%
<b>Paid Parked Cars</b>	<b>610,732</b>	<b>3,239,436</b>	<b>-6.1%</b>	<b>-5.4%</b>	Outerbridge Crossing	1,379	7,450	-1.7%	-0.7%
<b>Revenue AirTrain Passengers</b>	<b>1,807,295</b>	<b>10,059,932</b>	<b>-8.5%</b>	<b>0.5%</b>	<b>Eastbound Volumes by Vehicle Type (000's)</b>				
					Autos	9,613	53,027	1.7%	0.8%
					Trucks	652	3,671	0.5%	2.3%
					Buses	257	1,460	-0.8%	1.3%
<b>FERRY OPERATIONS</b>	<b>Jun '18</b>	<b>YTD</b>	<b>Jun '18/'17</b>	<b>YTD '18/'17</b>					
<b>Passengers (000's)</b>									
New Jersey Ferries	876.1	4,435.9	3.5%	5.6%					
<b>PATH</b>	<b>Jun '18</b>	<b>YTD</b>	<b>Jun '18/'17</b>	<b>YTD '18/'17</b>	<b>U.S. TRANSPORT. SERVICES INDEX</b>	<b>Jun '18</b>	<b>May '18</b>	<b>Change</b>	
<b>Passengers (000's)</b>	<b>7,105.0</b>	<b>40,691.0</b>	<b>-1.8%</b>	<b>0.8%</b>	<b>(Prelim., Seasonally Adj., 2000=100)</b>				
Average Weekday	291.1	1,678.4	1.0%	1.0%	<b>TSI - Combined Index</b>	134.3	134.0	0.2%	
Average Saturday	119.8	684.2	-3.5%	1.9%	<b>TSI - Freight</b>	136.5	135.9	0.4%	
Average Sunday	98.3	497.2	-0.3%	-4.8%	<b>TSI - Passenger</b>	130.0	130.0	0.0%	

## TRANSPORTATION FOCUS

(from page 1)

Chicago's CTA tried to shift riders to off-peak trips during evening Cubs baseball games with a text message campaign. The study tested two information based messages: 1) informational, to expect higher crowding given the game; 2) instructional, to travel before before 5 or after 6 pm to avoid congestion from the Cubs game.

It is possible that such programs reduce peak demand by a few percentage points – a difference that may free up rail car space and improve conditions for the traveling public. Further, transportation economists recognize that riders value reduced crowding more as congestion increases, so a small reduction in crowding at the peak (moving from crushing capacity to standing room with no contact to other riders) has high value to riders.

A successful program implementation relies on detailed ridership data, which to a certain extent already exists at PATH. By implementing customer information campaigns, it may be possible to induce small peak demand shifts. Successful implementation can lead to further behavioral interventions that require larger investments, but may also generate larger peak demand shifts. These include incentive programs for traveling off-peak, personalized travel recommendation, and workplace-based initiatives.

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