



Transportation & LANTA
"Lunch & Learn"
October 3, 2018

Agenda

- Connections Web Site Overview
- Why Now?
- Overview of Initiatives
- Transportation System Enhancements
- LANTA
- Discussion on Incentives
- Feedback
- Assessment

Why Now?

- Expansion: including the addition of approximately 1,000 undergraduate students, 500 graduate students, 100 faculty members, and 100 staff.
- Infrastructure: Must accommodate development of the new student housing, new College of Health, new building, and renovated existing buildings.
- Connectivity: Integration with the Mountaintop and Goodman campuses, as well as SouthSide Bethlehem.

Parking Capacity – Pre-Development

Lehigh University currently has 6,405 parking spaces, not including 4,689 parking spaces on Goodman Campus that are used as visitor parking or grass field areas for large events.

Population Growth

- Total 2017-2018 Campus Population: 9,950
- Total Population Anticipated: 11,650

Parking Space Reduction

- SouthSide Commons: 243
- Bridge West: 104
- College of Business & Economics: 44
- Health, Science, Technology: 127

Subtotal: 518

Parking Spaces Converted

- Resulting in Less F/S Spaces:
 - Loading Zones: 51
 - Car-Free Zone: 270
- Resulting in More F/S Spaces:
 - Short Term F/S Spaces: 35
 - Farrington Square-Student Zone: 130

Parking Spaces Added

- Added Parking Inventory
 - New Street Garage Lease: 163





LEHIGH
UNIVERSITY

Check out the full size model
at Alumni Hall!

Connections
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What's Changing?

Over the next 8 years Path to Prominence Initiatives throughout campus will result in changes to existing parking inventory on Asa Packer Campus. The following parking lots will be affected by various projects:

- Whitaker Parking Lot – Health Science Technology Building
- Parking Inventory in the Campus Core – Car-Free Zone
- Webster & Packer Parking Lot – Business Expansion
- Trembley and Kappa Delta Parking Lots – Bridge West Housing
- Expansion of Programming on Mountaintop Campus
- Expansion of Academic Programming on Asa Packer Campus
- Increase in Student Population

Vision for a New Mobility Ecosystem

Campus planning, enrollment growth targets, and sustainability goals require that Lehigh reduce the number of single-occupancy vehicles (SOVs) on the Asa Packer Campus. FY19 is the start of a phased approach to achieve this goal via a comprehensive program. Lehigh University's Connections Plan will reduce the reliance on the automobile for on campus travel, promote ridership and expansion of the Lehigh University transit system and encourage health and wellness through walking and cycling, resulting in a more collaborative, less congested, and more sustainable environment for students, faculty, staff, alumni, and visitors alike. The Connections Plan will seek to accomplish the following thematic goals:

- Foster a multimodal culture
- Achieve environmental sustainability
- Enhance health & wellness
- Minimize investment in new parking structures

Initiatives

Parking System



Gateways



Mobility Solutions



The Pedestrian Experience



How Lehigh Works



Transit System





Transit System

An efficient and seamless transit system is essential to supporting a car-free campus and reducing reliance on the personal vehicle, integrating the three campuses, and fully utilizing all existing parking facilities.



Transit System - Goals

- Provide convenient, timely, and comfortable transportation options to eliminate vehicle dependence in the core of campus and provide access to all existing parking facilities.
- Optimize bus routes and utilize fuel efficient fleet vehicles to create a healthier, cleaner, and more sustainable campus environment.
- Implement significant improvements and promote transit system usage by expanding the Lehigh transit and shuttle service, including the implementation of new routes, buses, shelters, wayfinding signage.
- Provide consistent, attractive, weather-protected bus shelters with clear signs, bus route information, consistent branding, and protection from the elements.



Transit Study Objective

EFFICIENCY, RIDERSHIP, RELIABILITY, HEADWAY, AND EASE OF USE.

- Provides service to the City of Bethlehem's SouthSide.
- Attracts ridership to enhance the parking system.
- Maintains or improves the headway from existing conditions to the Mountaintop campus.
- Provides a more cost-effective and efficient system.
- Allows for platooning (or gap) between vehicles at bus stops.



Transit System: 2017-2018 Schedule

More routes

+

More changes
throughout the
day

=

More confusion

Route	Monday through Friday Hours of Operation	Saturday Hours of Operation	Sunday Hours of Operation
Packer Express	8:24 AM to 6:50 PM (1 bus)	-	-
Mountaintop Express	7:30 AM to 5:50 PM (1 bus)	-	-
Campus Connector- Regular Service	8:24 AM to 6:50 PM (2 buses)	10:50 PM to 6:02 PM (1 bus)	12:10 PM to 7:22 PM (1 bus)
Campus Connector – Extended Service	7:30 AM to 8:24 AM 6:50 PM to 10:50 PM (2 buses)		
TRACS	10:45 PM to 2:15 AM (2 vans)	10:45 PM to 2:15 AM (2 vans)	10:45 PM to 2:15 AM (2 vans)
Summer Service	7:30 AM to 10:22 PM (2 buses)	10:50 AM to 6:02 PM (1 bus)	12:10 PM to 7:22 PM (1 bus)





Transit System: Proposed Schedule

Route	# of Buses at Peak Hours	Monday through Friday Hours of Operation	Weekend Hours of Operation
Packer Express	1	7 AM to 8 PM	-
Campus Connector	5	5 Buses: 7 AM to 8 PM 2 Buses: 8 PM to 2:30 AM	2 Buses: 10 AM to 2:00 AM
AccessLU (Accessibility Bus)	1	7 AM to 10 PM	10 AM to 10 PM

What has changed:

- The “Campus Connector” will run late night hours to all campuses and replaces the “T.R.A.C.S” route.
- The old “Campus Connector” and “Mountaintop Express” have been replaced with the new “Campus Connector” which will run 5 buses on the route during peak hour. This increases the number of buses running during peak hour between Asa Packer Campus and Mountaintop from 3 buses to 5 buses.
- The AccessLU is a new service that will provide on-demand service for those with accessibility limitations.



What is headway?

It is the primary goal when studying a transit system to reduce headway. *Headway* is a measurement of the distance or time between vehicles in a transit system moving in the same direction on the same route. Headway for the purposes of this transit study is measured as the distance from the tip of one vehicle to the tip of the next one behind it, expressed as the time it will take for the trailing vehicle to cover that distance. A "shorter" headway signifies a more frequent service. Headways have an enormous impact on ridership levels. Reduction in headway decreases average rider wait time and overall trip time, resulting in a more desirable transportation alternative.



Existing versus Proposed Transit System

Existing Lehigh University Transit System

Route	Number of Buses on Route	Route Headway (minutes)
Packer Express	1	12
Mountaintop Express	1	20
Campus Connector	2	20
Total buses operating at peak	4	

Proposed Lehigh University Transit System

Route	Number of Buses on Route	Route Headway (minutes)
Packer Express	1	14
Campus Connector	5	10
Total buses operating at peak	6	



Transit System Expansion

- Facilitate the closure of Packer Avenue by replacing the existing Packer Avenue Bus Stop with east side and west side Packer Avenue bus stops.
- The addition of a bus servicing SouthSide which connects to the overall system.
- The expansion of the existing system to attract ridership, decrease wait time, and connect the campuses.
- Maintain overall trip time (includes wait time plus travel time) to Mountaintop Campus.
- Plan for future growth resulting from the Path to Prominence.
- Allows for time between buses at bus stops along overlapping routes.



Transit System: Changes

Add

- 3 Buses (5 total) servicing Campus Connector route
- AccessLU
- SouthSide Bus Stop
- Farrington Square Bus Stop
- Packer East and Packer West Bus Stop

Modify

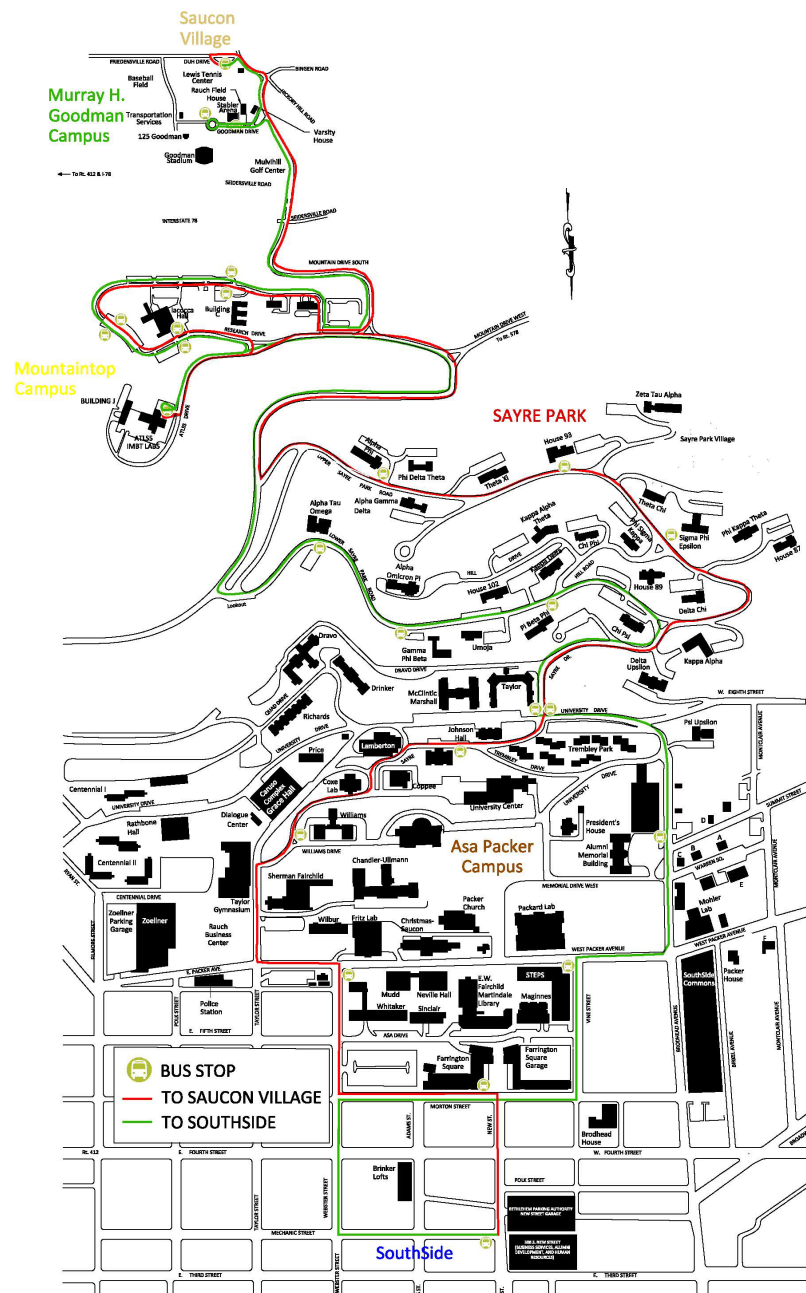
- Sync Bus Stops from Packer Express Route and Campus Connector Routes on Asa Packer Campus
- Extend Hours of Campus Connector Route
- Modify Packer Express Route to include Farrington Square.

Remove/Consolidate Resources

- Mountaintop Express
- TRACS
- Packer Avenue Central Bus Stop



The New “Campus Connector”





Typical Travel Time for Campus Connector

- Whitaker Lab to Iacocca Hall
 - Approximately 10 minutes
- Goodman to Taylor College
 - Approximately 14 minutes
- Iacocca Hall to Alumni Memorial Building
 - Approximately 8 minutes
- *Longest trip on route:* SouthSide to Saucon Village
 - Approximately 27 minutes (23 minutes reverse)



Trip Time Comparison

University Center to Mountaintop

Personal Vehicle Travel:

• Walk from UC to Alumni Garage:	6 minutes**
• Drive Time from Alumni Garage to Iacocca Hall:	10 minutes**
• Time to Find Parking/Park Time:	3 minutes*
• <u>Walk Time from Parking Lot to Iacocca Hall:</u>	<u>4 minutes</u>
Total Travel Time via Personal Vehicle:	23 minutes

LU Transit System Travel:

• Walk from UC to Drown Bus Stop:	2 minutes**
• Bus Headway:	10 minutes***
• Bus Travel Time from Drown to Iacocca Hall:	8 minutes
• <u>Walk Time from Bus Stop to Iacocca Hall:</u>	<u>1 minute**</u>
Total Travel Time via Campus Connector:	21 minutes

Travel via LU Transit results in 2 minutes less travel time

*This assumes there is parking availability. Parking availability could be much further away.

**Travel times are based upon Google Maps walk and drive estimates.

***This assumes you get to the bus stop the moment the previous bus leaves. You could use the app and time it for 0-5 minutes of wait time.

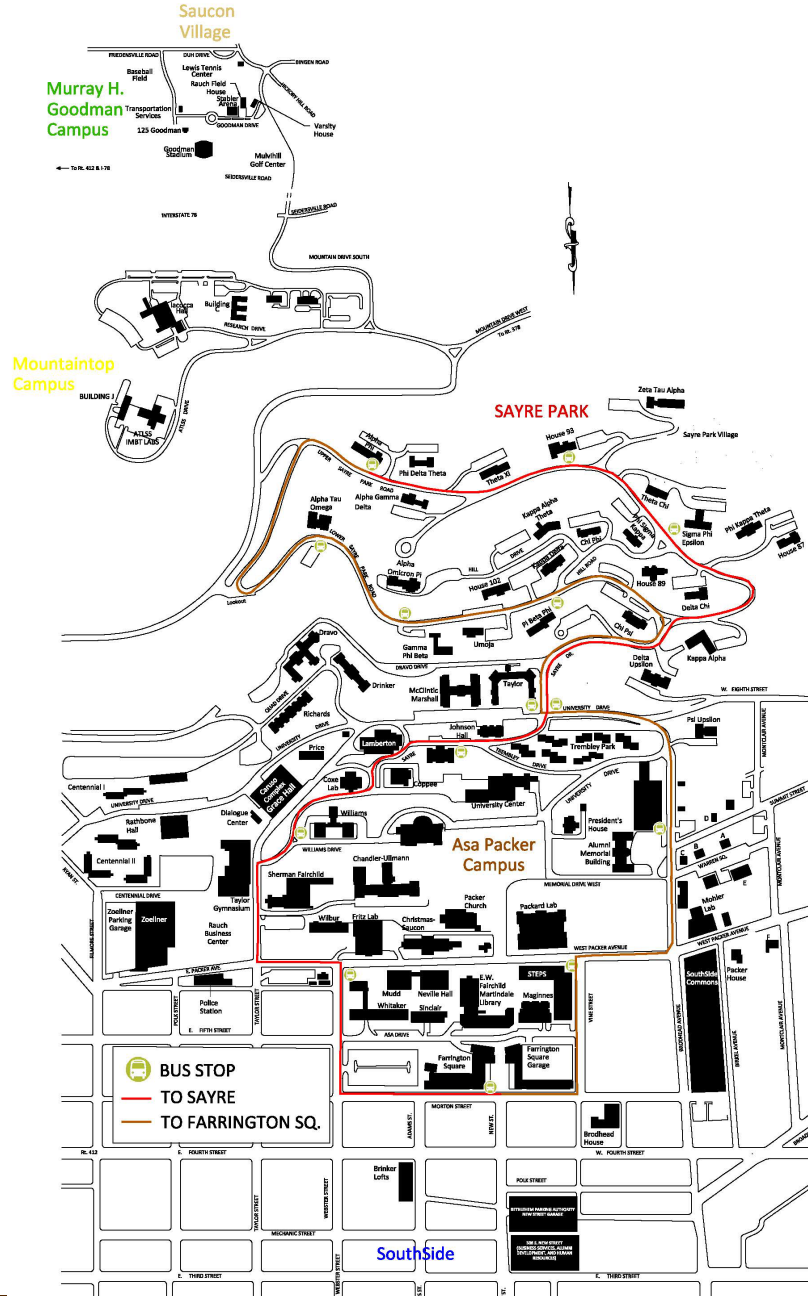


Transit System Benefits Over Driving Personal Vehicle

- Parking is often not available in close proximity locations. Finding a parking space and walking to your class, meeting, or office will most times take longer.
- The approximate time between buses at all bus stops will be 10 minutes. If you use the bus.lehigh.edu tracking website, this could be 0 minutes to 5 minutes.
- The transit system is designed to surround the interior ‘car-free’ area proposed. This allows bus stops within easy and closer walking distance than most parking facilities. It allows you the option to get off at stops and walk down the hill, instead of up.
- Parking facilities within the interior of campus are being eliminated for the Car-Free Zone. Consider the distance you will need to walk to your car from your office and then consider the distance from your office to the nearest bus stop. Which one takes less time?
- How long does it take for you to drive from the 5th floor to the entrance of parking garage?
- Consider the safety impact for pedestrians and environmental benefits of using transit.



Expanding the “Packer Express”





AccessLU

- Those with a valid Lehigh University ID with a state-issued American's with Disability (ADA) Plate or hangtag or a Lehigh issued hangtag may utilize AccessLU. The ADA Access Shuttle is being piloted as an on-demand system on a first-come first-serve basis. The ADA Access Shuttle will provide pick-up/drop-off at university parking facilities and buildings as requested.
- AccessLU will provide:
 - Service to car-free areas of campus
 - Service to inaccessible locations such as Rathbone and Centennial I residential facilities.
 - Service from between any Lehigh University campus building or parking facility
 - Wheelchair lift
 - Service for those with injuries, permanent disabilities, or other accessibility limitations
 - Daily repeat service as scheduled with the LU Lyft Dispatcher
 - On-Demand Service (on a first-come first-serve basis)





Ride LANTA for Free

Did you know that anyone with a valid
LU ID can ride LANTA for free?

LANTA Routes Accessible via New Street

Route	Destinations	Transit Hub Connections
102	Allentown, Dorney Park, LV Hospital Cedar Crest, Cedar Point Shopping Center	Bethlehem Transit Center & Allentown Transit Center
103	Sands Bethlehem, Mountainville Shopping Center, Lehigh Valley Mall, Walmart, Cherry Square	Allentown Transit Center
105	North Bethlehem, Hellertown, Lehigh Valley Mall, LVHN Muhlenberg	Bethlehem Transit Center
108	North Bethlehem, Fountain Hill, Bethlehem Square (Home Depot & Walmart)	Bethlehem Transit Center
212	Route 33 Park and Ride, St. Luke's Anderson Campus, DeSales University (Easton), Freemansburg, North Bethlehem, Fountain Hill	Bethlehem Transit Center

LANTA Routes Accessible via the Bethlehem Transit Center

Route	Destinations	Transit Hub Connections
215	North Bethlehem, Sands Bethlehem, Lehigh Valley International Airport, Hellertown, Saucon Valley Manor, LVH Muhlenberg, Westgate Mall	Bethlehem Transit Center
327	Crayola, Bethlehem Square (Home Depot & Walmart), North Bethlehem	Bethlehem Transit Center
605	Sands Bethlehem, City Hall, Historic Bethlehem, SouthSide- east	Bethlehem Transit Center





Ride LANTA for Free

- For traveling to campus, faculty and staff can utilize the Lehigh Valley's LANTA (Lehigh and Northampton Transit Authority) public transportation service.
- Lehigh University and LANTA have an agreement to offer free rides to Lehigh University students, faculty, and staff.
- Using a valid Lehigh University Identification Card, passengers can present the card upon entering the LANTA bus. Fare boxes have been configured to recognize Lehigh University identification cards.
- For more on LANTA routes, visit <http://www.lantabus.com/>.





LANTA Trip Planning

- MyStop Mobile for either iPhone or Droid. The app has a Trip Planner that allows you to put in an origin address and a destination and it will tell you how you can make that trip on LANTA. It then allows you to track the status and location of the bus.
- <https://www.lantabus.com/routes-and-schedules/>
- You can use google maps as a trip planner and just select transit directions. LANTA information is all loaded into google maps.



Find a Car Pool through

- <https://zimride.com/lehigh/>
- Zimride is a fun and easy way to share the seats in your car or catch a ride. With Zimride, you can find Lehigh friends, classmates, and coworkers going the same way you are.
- Lehigh Zimride helps you offer or request rides for commutes, road trips, and popular events. If you have a car, split costs by offering rides. If you don't have a car, find rides where you need to go.





Environmental Benefits

Share The Ride

In addition to helping reduce traffic congestion and cleaning up our air, carpooling can save you up to \$1,500 a year by lowering your gasoline bills, insurance costs, and car maintenance. It's also a great way to reduce the stress of your daily commute as carpoolers can choose to read, sleep, or chat when they're not behind the wheel.

Try Public Transportation

The [Lehigh and Northampton Transportation Authority's Metro system](#) (LANTA) is a network of 35 fixed bus routes throughout the Lehigh Valley, providing daily, later evening, and weekend services. More than 380,000 people live within walking distance of a Metro route.

- Each year it's estimated that households that use public transportation save over \$1,399 worth of gas.
- Public transportation use saves the equivalent of 300,000 fewer automobile fill-ups every day.
- By reducing smog-producing pollutants, greenhouse gases and by conserving ecologically sensitive lands and open spaces – public transportation is helping to meet national air quality standards.

Bike to Work

Believe or not, by biking just 4 miles you can keep 15 pounds of pollutants out of the air while enjoying some good cardiovascular exercise. Find out how you can help your employer become a [Bicycle Friendly Business](#) and be sure to participate in [National Bike to Work Day & Week](#).



Feedback

While the plan is implemented, we welcome community feedback. You can provide your feedback in survey to be released next week.

Assessment

The Provost and Vice President for Finance & Administration will review the plan after one year, in the summer of 2020, to assess the plan against the goals and develop next steps and program refinement in preparation for the 2020-2021 academic year.



Come Meet With Us

We understand that many people may have obstacles to overcome with these new Parking Regulations. Accordingly, we invite you to set up a meeting with our Parking Services office beginning in December 2018 to work through your individual concerns and find a solution that works for you. More information will be distributed over the next few months, so stay tuned for more information on programs to come. We plan to announce a number of additional programs not referenced here, to be announced throughout the Fall and Winter, that we hope will help us achieve our goals.



CONNECTIONS

Building a Connected Community

