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The study of strategic locations on the OSU campus to improve the transport of students, staff, and campus community while enhancing the campus environment and experience.

The Ohio State University completed the Comprehensive Transportation and Parking Plan (CTPP) in August 2014. The plan recommends a series of improvements to support an efficient and well-managed transportation and parking system on the Columbus campus. Implementation of the CTPP is anticipated to occur over a number of years in multiple phases; however, the following near-term improvements were identified as requiring further study to enable implementation of the multi-phase roadway, transit, and parking recommendations for the university.

1. Extending Annie & John Glenn Avenue (formerly 17th Avenue) from Tuttle Park Place to realigned Cannon Drive
2. Extending Neil Avenue from 19th Avenue to Woodruff to complete the Campus Core Circulator transit route
3. Locating a transit hub at the intersection of Annie & John Glenn Avenue and Neil Avenue
4. Managing traffic on academic core campus streets (the area bounded by Woodruff Ave., College Rd., Annie & John Glenn Ave., and Neil Ave.)
5. Converting 11th Avenue to two-way traffic from High Street to Neil Avenue
6. Determining the improvements needed along the proposed Wexner Medical Center transit loop to accommodate additional transit riders
7. Installing enhanced bus shelters in the Carmack and Buckeye Parking Lots

Several of these improvements are necessary to implement the proposed route for a Campus Core Circulator that would provide transit service throughout the core campus. The study and outcomes of the identified near-term improvements define the scope of the Comprehensive Transportation and Parking Plan (CTPP) Phase 2 and are described further on the following pages of this summary report.
Annie & John Glenn Avenue Extension

The extension of Annie & John Glenn Avenue (formerly 17th Avenue) from Tuttle Park Place to the realigned Cannon Drive would be necessary to enable the implementation of the proposed route for the Campus Core Circulator. This extended portion of the street is designed as a multi-modal transit corridor and will accommodate campus buses as well as general vehicular circulation, bicycles, and pedestrians.

A key design consideration was the impact this new street would have on the existing South Stadium Plaza and area south of Ohio Stadium. With the intent of creating a singular open space the key design strategies adopted include the design of a street flush with the plaza grade to "unify" the space as one and the use of a formalized grove of trees to "frame" an expanded lawn open space.

As seen in the site plan below, the overall design and materiality of the extended street maintains continuity with the existing Annie & John Glenn Avenue east of Tuttle Park Place. The design and material for the specific section of the street framed by the extended stadium walks is deliberately treated differently from the rest of the street to create the unified plaza environment discussed above. The brick paved plaza material continues on to the flush-curbed street and sidewalk to the south. South of the brick walk is a large lawn area that would accommodate additional pedestrian volumes and can be used for game day and other stadium events. The intent is to close off this street to vehicles during events and to enable the area south of the stadium to truly function as a unified pedestrian plaza space.

Bus stops with standard OSU design bus shelters and bus pull-offs are accommodated on both sides of the street closer to Tuttle Park Place.
Neil Avenue Extension

The extension of Neil Avenue from 19th Avenue to Woodruff Avenue is necessary to enable the implementation of the proposed route for the Campus Core Circulator. This extended portion of Neil Avenue is designed as a transit corridor and will be designed for campus buses, bicycles, and pedestrians only.

A key design consideration was the impact this new street would have to the safety of the large crowds of students that walk across from the Fisher College of Business and the North Residential District to this corridor to get to the academic core as well as the students crossing between Knowlton Hall and Hitchcock Hall. With student safety in mind, the Neil Avenue extension is designed as a simple, clearly articulated street with generous 10 ft wide walks. Street trees lined on either side of the walks provide shade and added pedestrian comfort. Clearly demarcated crosswalks as well as use of post-and-chain along the grass verge to discourage pedestrians crossing illegally will further ensure pedestrian safety.

As seen in the site plan below, the change in material at the intersection of Woodruff Avenue and the extended Neil Avenue will emphasize the pedestrian crosswalk zone and along with use of regulatory traffic signs will serve to deter vehicles from entering Neil Avenue.

To enable the Neil Avenue extension, the existing donor bosque will have to be altered. A new donor garden to the east of Knowlton Hall is designed to capture the essence of the existing bosque.

Bus stops with standard OSU designed bus shelters are accommodated on either side of the street close to 19th Avenue with proximate bike racks.
Neil Avenue Transit Hub

The Campus Core Circulator proposed in the CTPP links many of the core campus population nodes together. A key recommendation of the CTPP was the design of a transit center at Annie & John Glenn Avenue and Tuttle Park Place at RPAC. Upon further exploration in the CTPP 2 process it was determined that a major campus population node, where large numbers of students would get on or off the Campus Core Circulator, would be at the Neil Avenue and Annie & John Glenn Avenue intersection. This CTPP 2 recommends a transit hub be located at this location. This location has the added advantage of the existing under-utilized campus green space that can be enhanced and leveraged as part of the transit hub.

Key components of the transit hub include: bus shelters with indoor and outdoor waiting areas and seating, a cafe, an indoor bike fix-it area, bike parking and bike-share station, and a transit hub green with outdoor seating as an added amenity. The bus shelters at this location will be the standard OSU bus shelter design, but of a larger size (30’ x 12’) to accommodate higher volumes of bus users expected at this hub. Additionally these shelters would also include key amenities such as access to WIFI, digital displays/infotainment, route information, blue phone, and security camera. The cafe is envisioned to be an enclosed conditioned environment and at a minimum include serving and seating areas, and a restroom with adjoining enclosed bike repair area.

For pedestrian safety and given the increase in buses expected on Neil Avenue, the intersection at Annie & John Glenn Avenue and Neil Avenue is designed to be fully signalized.
Academic Core Traffic Management

The CTPP recommended management of vehicular traffic of the area bounded by Woodruff Avenue, College Road, Annie & John Glenn Avenue, and Neil Avenue to improve pedestrian and bicycle safety in this denser portion of the campus and allow for a smoother flow for the Campus Core Circulator. The extent and technique of traffic management for each street was explored as part of the CTPP 2 study. To understand the need for traffic management, traffic volumes were studied under existing conditions and under projected future traffic conditions assuming the proposed transit and roadway changes to facilitate Core Campus Circulator were made. The simulated models indicated that the managed streets would operate within acceptable standards when managed and the diverted traffic would not impact the surrounding roadway system to any great extent. Where Woodruff Avenue was concerned the team provided an analysis to determine the impact of potentially managing Woodruff during the peak hours. Based on previous studies performed by the university and the potential impact to off-campus streets, namely, Lane Avenue and High Street it was determined that Woodruff should remain open to all modes of transportation at all times. Further studies were then conducted related to pedestrian crossings and pedestrian safety under three conditions on Woodruff:

1. Signalized pedestrian crossing at Town Square, Mendoza, and Fisher College (assuming Neil Ave is extended to Woodruff)
2. Signalized pedestrian crossing at Town Square and Fisher College; and Mendoza unsignalized
3. Signalized pedestrian crossing at Town Square and Fisher; and Mendoza pedestrian crossing removed.

Condition 1 results provided the best and safest overall operation of Woodruff Avenue for all users and is therefore recommended. Providing signalized pedestrian crossings at all three locations allowed pedestrians to safely cross Woodruff while vehicular traffic moved smoothly through the corridor. Queuing in the corridor was minimal and buses were able to make their way through the corridor in a timely manner. If this recommended option is not implemented, the pedestrian and vehicular movements along Woodruff should be re-evaluated after the completion of the North Residential District construction in 2016.

Condition 2 results showed that an unsignalized pedestrian crossing at Mendoza would adversely affect the operation of vehicular traffic on Woodruff and cause very long queues throughout the Woodruff corridor. It was also determined that an unsignalized crossing would not offer a safe location for pedestrians to cross Woodruff given the high volume of vehicular traffic on Woodruff.

Condition 3 results provided the best operation on Woodruff for vehicles, however, this did not account for pedestrians having to walk to the other two crossings, or the very large number of pedestrian that would then need to cross at the other two signalized crossings. It also did not account for pedestrians crossing Woodruff at the location of the removed Mendoza crossing and the adverse effect this would have on pedestrian safety. Based on the CTPP recommendations, CTPP 2 findings, and university needs the following are determined as the proposed role of the streets:

- Annie & John Glenn Avenue: Multi-modal street until future studies are conducted
- 18th Avenue: Pedestrian street and emergency/service vehicles access only
- 19th Avenue: Service and emergency vehicle access only
- Woodruff: Multi-modal street
- Neil Avenue Extension from 19th to Woodruff Avenue: Transit corridor for campus buses, bicycles, and pedestrians only

The study findings ruled out the need to control non-essential vehicles during any specific time of the day. Similarly installing traffic gates was also ruled out. The techniques recommended by CTPP 2 rely on design strategies (raised crossings, paving material), use of regulatory signs, and installation of traffic signals. The traffic in the core should be studied after the implementation of these measures and proposed transit system before any additional traffic management strategies are employed.
11th Avenue 2-Way Conversion

The conversion of 11th Avenue (between Neil Avenue and High Street) from its existing one-way street to allow two-way traffic would be necessary to support the implementation of the proposed transit system. The two-way 11th Avenue is designed to be a two-lane multi-modal transit corridor and will accommodate buses as well as general vehicular circulation, bicycles, and pedestrians.

To accommodate two 12 ft wide traffic lanes, the street will be expanded to the south side by 2 ft. The design of the entire length of the south edge of the street and sidewalk is made consistent with the design along the existing north edge.

A key design consideration was preserving as much of the existing on-street metered parking especially between College Road and High Street. Parallel parking is accommodated on the entire length of the south side of the street and parking bump-outs on the north side are introduced at the east and west ends resulting in total of 73 parking spots (net loss of 15 spots).

Bus stops for the proposed Campus Core Circulator are located on either side of the street near Highland Avenue. Standard OSU sized bus shelters are recommended at these stops.

New street trees located on the north and south street edges will significantly improve both the visual and comfort (shade) aspect of this corridor.

Wexner Medical Center Transit Loop

To facilitate an efficient and convenient connection from the Carmack lots to the Wexner Medical Center for staff/employees, the CTPP study recommended the parking connector would loop around WMC to make a counterclockwise route starting south on Cannon Drive, east on 12th Avenue, north on Neil Avenue, and west on John Herrick Drive. The CTPP 2 study was tasked with exploring the specific locations and number of bus stops to be located along this loop and determine the size and amenities of the bus shelters.

Based on the riders and their destinations in the WMC district, three stops are recommended at the following locations:

- 12th Avenue at Harding Hospital
- 12th Avenue at Doan Hall
- John Herrick Dr. at the Biomedical Research Tower (BRT)

Based on the expected bus user volumes at each location the shelters at Harding Hospital and the BRT are recommended to be the standard OSU bus shelter size and design. The stop at Doan Hall is expected to be heavily utilized and hence the bus shelter at this location is recommended to be sized to accommodate two full bus-loads of passengers waiting. Amenities recommended at this location include enclosed conditioned (heating only) environment, access to WiFi, digital displays/infotainment, route information, and blue phone. Specific design of this bus shelter would be determined in future studies.
Buckeye and Carmack Lots + Enhanced Bus Shelters

A key near-term recommendation to the parking system proposed in the CTPP is to better utilize the parking resources in the Carmack and Buckeye Lots. This would allow the university to use existing parking resources to meet demand. The CTPP scope therefore included studying the bus shelter improvements needed in these parking lots and the verification of the numbers and location of the shelters in each lot to ensure that the majority of parkers will not have to walk more than 500 feet.

Based on the bus frequencies and expected bus users at each lot, three stops are recommended for the Carmack lots and two in the Buckeye lots. The specific locations of bus shelters are shown in the accompanying site plans on this page.

The shelter #2 at Buckeye Lot is planned as the standard OSU bus shelter size and design. The rest of shelters at the Buckeye and Carmack lots are custom designed as “enhanced shelters”, with carefully selected materials, colors, and elements that are complementary to the standard OSU bus shelters. Each of these shelters is about 550 sf with capacity to accommodate one full bus load of passenger waiting. The shelters have ample indoor as well as outdoor sheltered waiting and seating areas. The indoor seating areas also include high top tables for riders to work while waiting. A unique aspect of the indoor waiting areas is that they are enclosed conditioned (heating only) environments that will maintain a comfortable temperature for waiting bus users. Additionally these shelters would also include key amenities such as access to WiFi, digital displays/infotainment, route information, blue phone, and security cameras. The roofs of the enhanced shelters are designed to allow installation of solar panels if desired.

The site areas for each shelter accounts for bike parking and bike-share stations, trash receptacles, as well as trees within the landscaped areas to add to pedestrian comfort.

**Legend**

1. **[enhanced] bus shelter**
2. stone pavers + seat wall + shade trees + perennial planting
3. improved sidewalk
4. bike parking + site

**Buckeye Lot Bus Stops**

**Carmack Lot Bus Stops**
Considerations for Future Study

Design Review Board Comments, Sep. 17, 2015

Annie & John Glenn Avenue Extension

a. Tennis Courts - The DRB questions whether all of the tennis courts should be removed and replaced in another location on campus. The appropriate number of tennis courts needs to be determined. Having tennis courts in two locations may not be preferred by students. If the tennis courts are relocated, the recreation fields could move to the north and provide space on the south for a proposed sidewalk on the north side of Herrick Drive. This decision needs to be made to determine the roadway alignment and tree placement.

b. Tree Grove – The DRB recommends either implementing the grove concept or keeping the tennis courts. The scheme as shown does not create a grove of trees as intended. One row of trees does not hide the remaining courts. Instead, it creates two spaces separated by the tennis courts. One option is to design a double row of trees on either side of the shared-use path and stadium walks.

c. Buckeye Grove – If the tennis courts are removed, the Buckeye Grove could be expanded into the tree grove. The Buckeye Grove will then be more centrally located and become more of the game day experience.

d. Southwest Corner of the Stadium – The landscape indicated on this corner of the stadium needs to be paved as too many pedestrians flow through the area on game days. The double row of trees recommended above could still be placed in planters to line the walkway.

e. As this project moves forward, determine what will happen to the bicycle/pedestrian bridge over the Olentangy River and how the future Cannon Drive grade connects to it.

Neil Avenue Extension

a. The DRB is concerned about vehicular traffic accessing Neil Avenue from both Woodruff and 19th Avenues. The design team should review options to discourage this traffic. The continuation of the concrete material across Neil Avenue at Woodruff will help. This may be an opportunity to design an expanded plaza similar to the south side of the stadium. Let the surface be contiguous to signal a pedestrian environment. There is a desire by the College of Engineering for Knowlton to be better connected to Hitchcock. To this end, it would seem that the area between the two should be treated as a unifying outdoor space and/or plaza rather than being sliced by a road.

b. The DRB appreciates the attempt to extend the landscape language on the north side of Knowlton to the east, but the small replacement bosque is not an improvement. The landscape at the northeast corner of Knowlton and the entrance to Hitchcock Hall needs to be studied more closely. The line of trees along Neil Avenue should be continued. If the design can re-grade back to the face of Knowlton the slope may be mitigated to allow paving to the street. There are mature trees along the western façade of Hitchcock that should be preserved.

c. Neil Avenue south of the university has a wonderful streetscape consisting of mature London plane trees. The university should plant London plane trees all along Neil Avenue from 10th Avenue to Woodruff to strengthen the connection through Victorian Village and to Downtown. The DRB encourages the design team to think of the continuity of Neil Avenue and how to bring closure to the street at Woodruff.

d. The proposed bus shelter on the east side of Neil Avenue should be moved further north so it is not blocking the entrance to Boltz Hall.

e. As commented above, the university should plant London plane trees all along Neil Avenue from 10th Avenue to Woodruff to strengthen the connection through Victorian Village and to Downtown.

Neil Avenue and Annie & John Glenn Avenue

a. This location is not the same program as the transit hub proposed at RPAC in the first Transportation Plan, which was a transfer point for CABs and COTA transit and a car sharing location. This location is a bus stop, not a transit hub.

b. This location offers a huge opportunity in the Academic Core to take advantage of a heavily traveled and an under utilized green space. People can transition from buses to walking or riding bicycles.

c. The way people use transit on campus is changing. In the near future, there will be people waiting at bus stops because they will use technology to time their arrival with the bus’ arrival. This location shouldn’t be a place to wait for a bus, but more of a place to gather and socialize.

d. The transit system is not reliant on a coffee shop, but it is enhanced by the co-location. The proposed building needs to have a direct relationship to the greenspace and take advantage of the site. This is one of the few greenspaces the university has along the Neil Avenue corridor. The design team should give some thought as to the right amount of greenspace and its purpose. Consider designing a structure within a park-like setting that would facilitate the movement of and celebrate transportation. Look at the Brochstein Pavilion at Rice University as an example of a similar facility.

e. As commented above, the university should plant London plane trees all along Neil Avenue from 10th Avenue to Woodruff to strengthen the connection through Victorian Village and to Downtown.

Enabling Projects

The following list captures projects that would likely have to be initiated either prior to implementing the recommendations described in this report or projects that would result once implementation is completed.

Annie & John Glenn Avenue Extension

- Cannon Drive phase 2
  - A new service drive to access Lincoln and Morrill Towers
  - Drake Union demolition
  - Bikeway connection west to the Olentangy River Trail

- Relocation of tennis courts, basketball courts and sand volleyball courts.

- Relocation of the Buckeye Grove

- Reconfiguration of the west stadium parking lot

Neil Avenue Extension

- Neil Avenue improvements between 19th Avenue and Annie & John Glenn Avenue (if the Neil Ave. Transit Hub project is not implemented simultaneously)

- Provide an opportunity for cost savings and efficiencies to prepare for a future utility connection to the St. John block via Ives Drive

- Identify outdoor program space for the College of Engineering to host donor events that are currently held on the plaza