

# Bus Stop Consolidation

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## Overview:

All of the current stops served by Campus Bus were reviewed to determine if there were improvements that could be made in operational efficiency. The Campus Master Plan (CMP) and a bus stop spacing report by the Transit Cooperative Research Program (TCRP) were used as guidelines for the following recommendations. The relevant sections of the CMP are attached to this document. TCRP reports can be viewed at their website: <http://www.tcrponline.org/>.

### *Campus Master Plan Guidelines*

- Simplify transit runs to out and back routes
- Create transfer stops to reduce redundant loop routes
- Use transit infrastructure to allow for a 5 minute walk to most campus locations

### *TCRP Bus Stop Spacing Guidelines*

- Indiana University is classified as a suburban campus
- Spacing Range: 600' to 2,500'
- Typical Spacing: 1,000'

The efficiency and speed of bus service is directly related to the number of stops that are served by a given bus route. The X Route from the Stadium to the core of campus only has three bus stops: Stadium, IMU, and the IU Auditorium. The Campus Master Plan uses the X Route as an example of a highly efficient bus route, compared to the bus routes that circle the core of campus and serve bus stops that are relatively closely spaced. In comparison there are 5 bus stops along Third Street from Jordan Avenue to Indiana Avenue which is a distance of approximately 2,700 feet. These bus stops are spaced a little over 500 feet apart. Each bus stop requires dwell time for loading and unloading. It is more efficient to unload a full bus at one or two stops, than to spread it over 5 stops.

## A Route

It is recommended that both bus stops at 17<sup>th</sup> & Dunn St. be removed from the A route. The basis of this recommendation was as follows:

- 17<sup>th</sup> & Dunn stop is only 700' away from the loading point. As such, this stop delays the route while not providing very much utility in terms of access.

- The outbound-side stop is not in a safe location, since there are no sidewalks on that side of the street.
- The intersection of Dunn and 17<sup>th</sup> Street does not have marked pedestrian crosswalk or pedestrian signals.
- This summer the University will be improving the intersection of Dunn and 19<sup>th</sup> street with marked pedestrian crosswalks and a pedestrian signal which will greatly improve the safety for pedestrians crossing the street in that location.
- Currently, the X Route does not stop at either of these two bus stops.

## **B Route**

### **North Jordan Avenue (South of 17<sup>th</sup> St.)**

It is recommended that the stops be removed from 17<sup>th</sup> & Jordan Ave., Zeta House, Law Lane, and IU Health Center. An outbound stop will be added at the existing bus shelter on the southeastern corner of 10<sup>th</sup> & Jordan. These stops are being removed for the following reasons:

- Many of these stops are less than 600' from each other. This distance is well under 5-minutes, and adds unnecessary delay to the route.
- Stops such as Law Lane, IU Health Center, and Zeta house receive very little use.

## **E Route**

It is recommended that the 7<sup>th</sup> & Jordan Ave. and 7<sup>th</sup> & Rose Ave. stops be removed from the E route. Seventh St.

- The 7<sup>th</sup> & Jordan Ave. stop serves very few passengers, and is well under a 5-minute walk to adjacent stops.
- The 7<sup>th</sup> St. & Rose Ave. is extremely close to two adjacent stops, and only adds unnecessary delay the route. Any passengers using this stop can use the 7<sup>th</sup> St. and Union St. stop just as easily.

## **Campus Core**

### **Jordan Avenue**

It is recommended that the Wells Library (not to be confused with the 10<sup>th</sup> St. stop) and Musical Arts Center stops be removed from all routes that service Jordan Ave.

- The Wells Library stop is redundant and only adds unnecessary delay to routes.
- The Musical Arts Center stop is used by very few passengers, and adjacent stops are less than a 5-minute walk from this location.

### Third Street

It is recommended that the Memorial Hall and Swain Hall stops be removed from all routes that service 3<sup>rd</sup> St.

- The Campus Master Plan calls for a simplification of routes to out-and-back runs and consolidation to major transfer point stops. As such it will be more efficient if the traffic from these stops is shifted to the 3<sup>rd</sup> St. & Jordan Ave. stop (a transfer point).
- Adjacent stops from the removed stops are within a 5-minute walking distance.

### Appendix I – Campus Master Plan Walking Distances

#### EXISTING AND PLANNED PARKING STRUCTURES

434 Henderson Garage-constr. 8/07	550	550
442 Alwater Garage	644	644
458 Ballantine Garage-Upper	53	0
459 Ballantine Garage-Lower	64	0
255 11th & Fee Garage	635	635
400 Poplars Garage	427	427
528 Jordan Ave. Garage-Upper	331	0
529 Jordan Ave. Garage-Lower	319	0
PD1	0	1,053
PD2	0	991
PD4	0	334

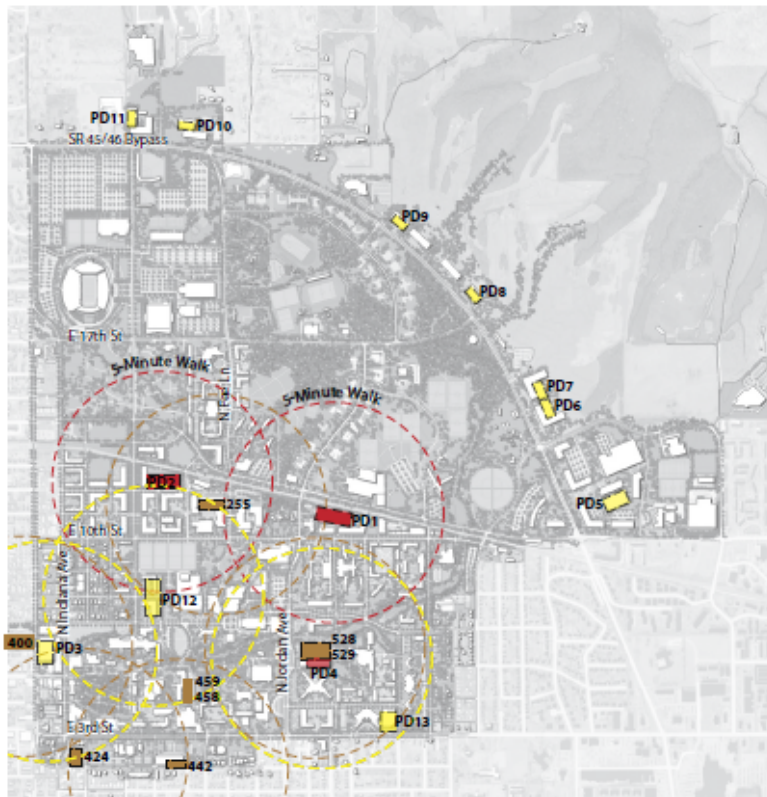
#### FUTURE PARKING OPPORTUNITIES

PD3	0	334
PD12	0	619
PD13	0	582
		1,870

#### FUTURE TECHNOLOGY PARK PARKING

PD5	0	718
PD6	0	334
PD7	0	334
PD8	0	334
PD9	0	334
PD10	0	334
PD11	0	334

Increase	■
Decrease	■



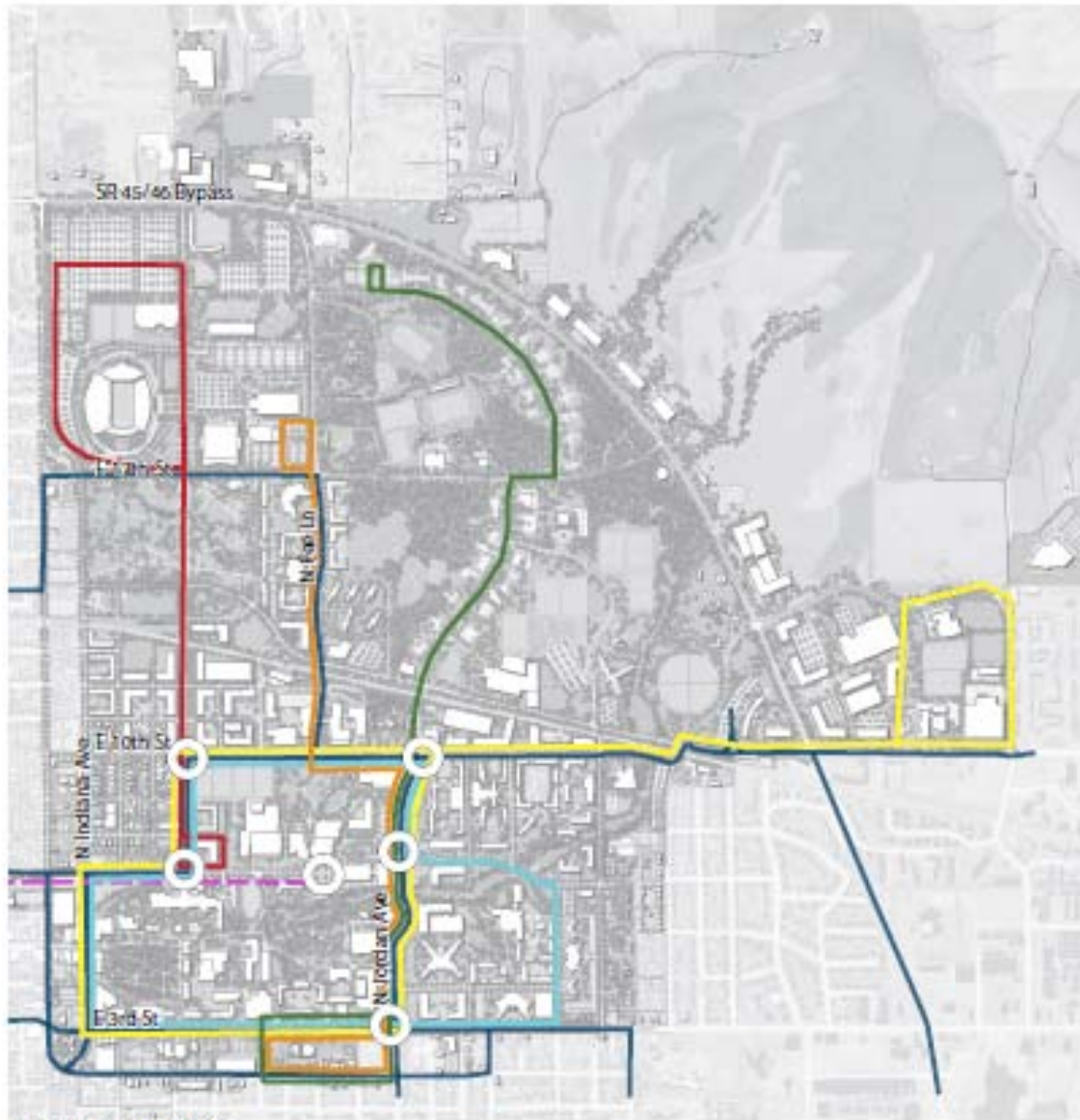
#### PARKING STRUCTURES

- Existing Parking Decks
- Planned Parking Structures
- Future and Technology Park Parking Opportunities



0 500 1000 1500 Feet

## Appendix II - Future Campus Transfer Points



### FUTURE TRANSIT

— Existing Bloomington Transit

— Future IU Transit

- - - Future Connection to City

⊙ Transfer Points



0 600 1200 1800 Feet

