

IndyGo Downtown Bus Operations

Purpose/Goal

This discussion paper explores options to enhance downtown Indianapolis bus service operations. It primarily examines routing options and associated terminal/layover requirements. The goal of this review is to identify options to enhance the efficiency of downtown bus operations while providing high-quality customer service in terms of easy walk access to final downtown destinations, convenient transfer between routes, and higher service reliability. This document is a discussion paper, with the alternatives considered all requiring more detailed analysis and definition before any option could be considered as a recommendation.

Current Operating Patterns

Downtown Loop

Bus operations in downtown Indianapolis are currently concentrated on a well established one-way downtown “bus loop” (series of left turns; Ohio Street, Delaware Street, Maryland Street, and Capitol Avenue). The IndyGo transit network is almost entirely made up of radial routes, with 29 of these linking downtown Indianapolis with most parts of Marion County and two communities of Hamilton County. Most services operate half hourly in peak periods, with a majority of routes operating hourly weekdays off peak. Selected routes operate on weekends. There are seven groups of routes:

- Northeast Local Routes: 2, 4, 11, 17, 18, 19, 21, 39
- Northwest Local Routes: 15, 25, 28, 34, 37, 38
- Through Running East: West Local Routes: 3, 5, 8, 10
- South: Local Routes 12, 14, 16, 22, 24, 31, 55
- Circulator: Red Line IUPUI 50
- Commuter Express (ICE): Carmel, Fishers
- Other: Green Line Airport Express

Existing Operating Plan

The majority of IndyGo bus routes run through this bus loop in a continuous trip, with a total of around 70 movements in the peak morning and afternoon hour. Currently buses operate outbound trips as a continuation of a prior inbound service, either returning as the same route they arrived as, or in a limited number of cases, interlined with another radial route. A limited other group are routes operating through from one side of downtown to another.

All routes operate through downtown with just one key departure time (or timepoint) at a central Ohio Street stop, but without having a scheduled layover. They are scheduled to avoid arriving early and having to wait for departure time. Otherwise, congestion could result from too many buses holding up on Ohio Street at the same time. Congestion has led to blocked driveways when too many buses arrive

together on Ohio Street, resulting in delayed departure times. Many routes are also timed to be there at the same “pulse” time, in theory facilitating passenger transfers between buses.

Removing layover time downtown helps reduce the risk of too many buses congregating there, but has the negative impact of reducing service reliability for departing outbound trips. There is also uncertainty for passengers about whether their connecting service has already departed. The lack of layover time also results in operators having limited opportunity to access facilities such as restrooms, as they are technically never out of service. There is no allocated layover time in downtown for this purpose. Layovers are typically more generous at the other end of each line, given the absence of layover time downtown.

IndyGo recently made efforts to address these issues by implementing 5-minute downtown layovers for several routes. This strategy will likely alleviate some of the issues mentioned above, as a test before any decision is made to add layover time downtown for all IndyGo radial routes. This time is in addition to the 8-10 minutes running time allocated to circulate through the downtown loop.



Current efforts to develop a downtown transit center have focused on available land, with a parcel known as the “Post Office Site” being the currently recommended site from previous studies. This is located adjacent to South Street to the south of Union Station (between Capitol Avenue and Illinois Street). This proposal is conceptual at this time - the land has not been secured, nor has any facility been designed or constructed.

Passenger Activity

Boardings and Alightings

A large amount of passenger activity is concentrated downtown (approximately 19,000 average weekday boardings and alightings), reflecting both trip ends and transfers. Estimates suggest that these are around equal in volume (see below). Downtown Indianapolis therefore has two key roles – as a

destination for the concentration of employment and business located there, and as a key network transfer hub (in the absence of a range of crosstown routes).

The greatest part of this high volume of boardings and alightings is concentrated in Ohio Street on the northern edge of the loop, with very limited activity (and limited number of stops) at the southern end of the loop. Most concentrations of employment are located within easy walking distance of Ohio Street, while the convention center, retail heart, Union Station, and event venues are slightly further to the south. The level of activity in the two three hour peaks is comparable to that of the six hour midday weekdays, not surprising given that ridership is dominated by those dependent on transit.



Given the challenges mentioned above, IndyGo has long desired to find a better downtown bus operating arrangement, including the desire to develop a downtown transit center. Such a facility would ideally enhance the transit experience for both riders and operators.

Virtually all downtown passenger activity is focused on Ohio Street.

Downtown Transfers

In order to gain an understanding of how IndyGo riders currently utilize downtown-based services, downtown transfer data was analyzed. This data was assembled from the 2009 IndyGo Passenger

Survey along with ridership data from the current IndyGo COA study to reveal transfer trends in downtown Indianapolis.

According to the survey, approximately 45 percent of all IndyGo passengers transfer downtown during their daily travel. The rate was calculated from survey responses indicating transfers between two routes with transfer opportunities located downtown. This indicates that downtown transfers play a large role in passenger use of the overall IndyGo system today, likely due to the limited number of crosstown transit routes available for such journeys.

According to ridership data analyzed for the IndyGo COA, around 1,900 boardings and 2,900 alightings occur at downtown stops during the AM Peak period on an average weekday. Due to the lack of a major residential population in downtown Indianapolis, it is reasonable to assume that most of the boardings during this period are due to transfer activity rather than trip generation. Considering this, approximately 2 out of every 3 AM Peak period downtown passenger boardings are transfers. Similarly, during the PM Peak period, 60 percent of downtown boardings are transferring passengers.

Downtown functions significantly as both a transfer hub and a major trip generator/destination.

Both of these measures correspond with an overall systemwide transfer rate of around 60 percent. The data suggests that downtown (particularly Ohio Street) functions significantly as both a transfer hub and a major trip generator/destination. Options discussed in this paper for enhanced downtown transit service should therefore successfully address both these functions.

Framework for Downtown Transit Operating Plan

The key issues for developing a new downtown transit operating plan are:

- Downtown serves significant volumes of downtown destined travelers as well as equally significant volumes of transfers between services.
- Most passenger activity is centered on Ohio Street. The existing downtown loop serves 30 percent of riders but occupies 60 percent of time spent by services downtown. Approximately 70 buses travel this loop each “peak” hour weekdays.
- Current operations are challenging for reliability and transfers as layovers are not provided downtown. Layovers are needed to provide reliable outbound departures and connections.
- Efforts to date for a new transit center downtown have focused on available land with the “Post Office Site” being the recommended option from previous studies. This has been driven in part by the desire for an intermodal transit hub around Union Station.

Concepts should aim to minimize customer out-of-direction travel and reduce wasted operating resources.

The challenge with the above issues is to enhance both transit operations and the passenger experience in any option developed.

Downtown Terminus Options

Based on the key issues above, a set of three options are discussed further below. These are:

Option One - Ohio Street Focus Terminus on Ohio Street with layovers on adjacent streets at the east and west ends of Ohio Street (see Option One Map for conceptual layover and routing options).

- Abolishes downtown loop, offering opportunity to slightly reduce resources required to operate northern services (based on less run time downtown per route).
- Retains transfers downtown on Ohio Street at first available location, making transfers and outbound transfers reliable through introduction of layovers.
- Retains good access to best used stops (90% of ridership) downtown, including good access to core of downtown employment.
- Does not require large scale capital investment – can be implemented quickly.
- Less convenient access to south end of downtown. Would require special shuttles in future connecting with new rail services at Union Station.
- Needs new bus layover locations to be established at either end of Ohio Street, with resulting benefit for operators.
- Can be implemented in the short term. Estimated operating cost saving of 3 buses and 36 operating hours per weekday.

Option Two - New Downtown Transit Center Based on existing recommendation of U.S. Post Office Site, with simple pattern of southbound Capitol Avenue and northbound Illinois Street for most operations in place of the downtown loop, for most routes, with layovers at new transit center at Post Office site (see Option Two Map for conceptual layover and routing options).

- Allows all routes to serve Union Station, a future rail hub, as well as being close to downtown special event venues (this may be positive for demand but a negative from congestion).
- Provides one parcel adequate for transit center needs, but center would be primarily operational in nature, as location is south of most activity in downtown.
- Most transfers would still occur at Ohio Street where most routes will still first meet, offering passengers least risk of missed transfers, so new transit center will not serve most transfers.
- Establishes intermodal precinct around Union Station, but still will need dedicated shuttles for downtown destinations (flexible enough to meet all trains) – regular route services will not meet the needs of most rail commuters.
- Adds significant operating costs to many routes which are already at or close to their limit on run times, and cannot absorb the extra time required to access this facility. Estimated 4 extra peak buses and 46 additional daily hours weekdays, based on extensive interlining to mitigate extra costs.
- Significant capital cost for new facility and associated land parcel, as well as some new maintenance costs.
- Only implementable in the long term.

Option Three - Optimal Location Concept A location for a downtown transit center that meets both customer and operational needs is recommended to be located within one-quarter mile of Monument Circle, placing it at the geographic heart of downtown within easy walking distance of most jobs (see Option Three Map for conceptual layover and routing options).

- Such a location is yet to be identified. The MPO and IndyGo should continue to explore options in this area for a transit center, though land is scarce and any option would likely need to be part of a joint commercial development.
- A high quality all weather customer and operational facility should be developed in an optimal location for downtown access, ideally integrated into a development. Such a high quality well located integrated facility will help raise the profile of transit and help attract more choice riders.
- Slightly lower operating costs from avoiding the extra time of the existing downtown loop. Same as option one, with an estimated three less peak buses and 36 operating hours required per weekday.
- Facility meets needs of both transferring and downtown destined passengers, as well as providing layover space for reliable outbound departures.
- Such a facility avoids the congestion from buses congregating downtown on street.
- This option is not integrated with Union Station. Special shuttles would need to be operated from Union Station to meet the needs of most rail commuters (this is the case for all three option).
- Very significant capital cost (may be partly mitigated by joint venture) and ongoing maintenance costs.
- Only implementable in the long term.

Conclusion

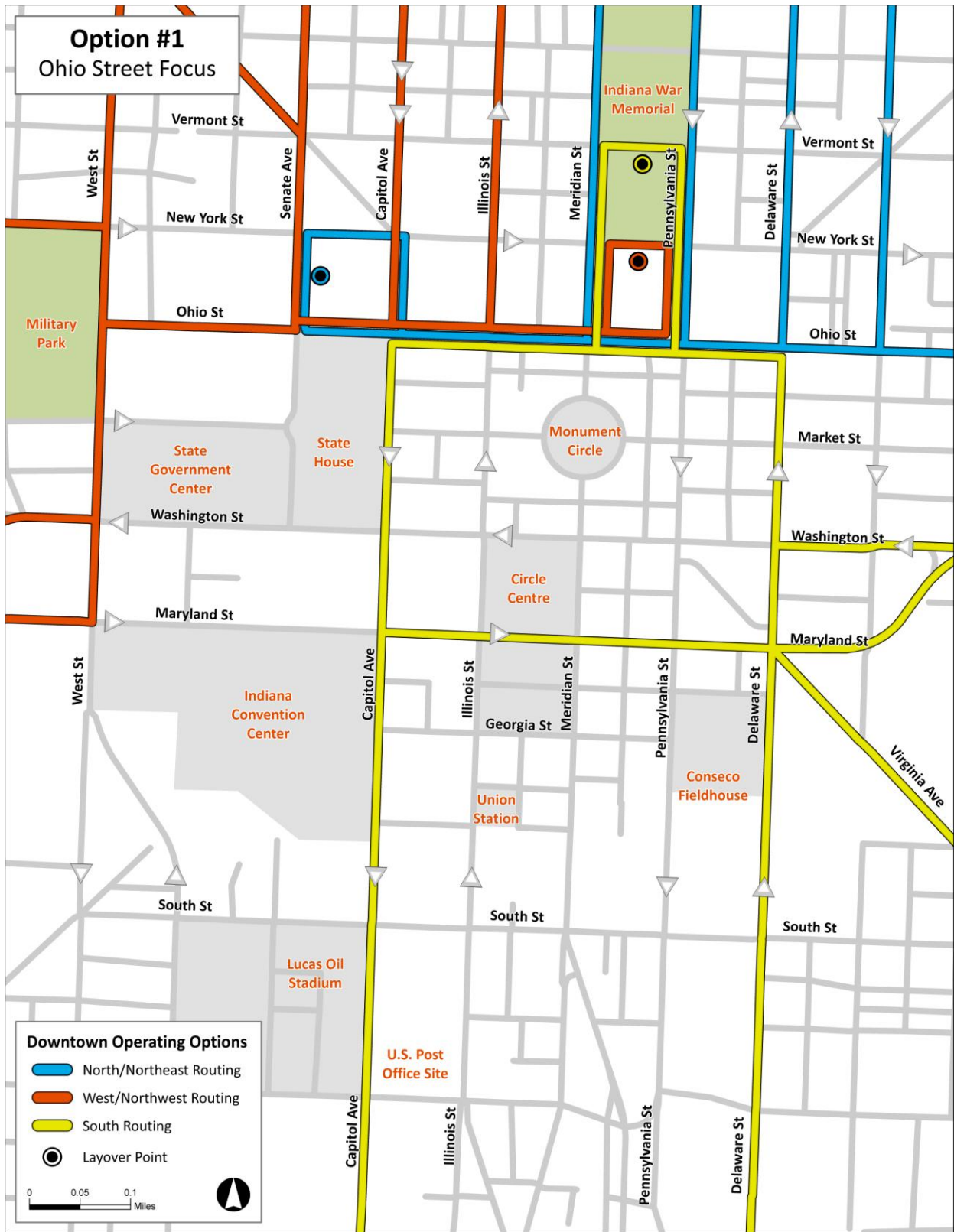
The three options described above offer viable alternatives to the current downtown Indianapolis bus loop operating plan, each with varying impacts on IndyGo operations and downtown Indianapolis:

- **Option One (Ohio Street Focus):** Short term plan capable of alleviating many of the current operating and scheduling issues hindering IndyGo services in downtown Indianapolis. Centrally located and focused on the main ridership generator of the IndyGo system. Likely to save some operating resources for IndyGo. Low capital cost and low level of commitment required from affected stakeholders. Does not preclude a later change of option.
- **Option Two (Post Office Site):** Longer term option providing direct link between potential future regional rail service and IndyGo bus service. Good facility for operational layovers. Associated routings cover all of downtown, but without the need for a loop operation. No gain for convenience of bus-to-bus transfers compared to Option One. Likely requires additional operating costs for IndyGo routes to access the site. The site is not well placed to become the key downtown passenger facility, as it is too far south from the center of downtown. This option requires significant capital investment for facility construction and property acquisition.

- Option Three (Optimal Site: Concept of new transit center within one-quarter mile of Monument Circle):** Conceptual long term strategy of developing major bus transit hub underground in the core of downtown. Ideally part of a wider commercial development. All-weather facility increases the convenience for downtown bus transfers and central location provides direct access to major downtown destinations. Will help significantly in raising profile of transit so as to attract far more choice riders. Layover space allows for recovery time, alleviating scheduling inefficiencies caused by the current downtown bus loop. Option requires very high capital investment for facility construction and requires major public/stakeholder support, so will likely need to be part of a commercial redevelopment.

Concept Evaluation Criteria					
Concept	Access to Downtown	Ease of Transfer	Cost of Facility	Operating Costs	Long Term Role
Option #1	Good	Fair	Good	Good	Poor
Option #2	Poor	Good	Poor	Poor	Good
Option #3	Good	Good	Poor	Good	Good

Considering the current operating pattern of IndyGo services downtown does not offer the best long term solution to downtown transit, it is up to IndyGo, the Indianapolis MPO, City of Indianapolis, and other stakeholders to decide the optimal downtown transit operations, both short and long term. Such a decision should address all of customer, operating, and community needs.



Option #2
 US Post Office Site Transportation Center

