IndyGo Downtown Transit Center
Transforming Indianapolis

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“Market East”
Indianapolis’s 7th Cultural District
Site Studies & Site Influences
City County Building
Project Challenges & Opportunities

• Logical bus routing
• Functional efficiency
• Gateway to the city
• Dignity of ridership
• Multi-modal hub
• Safe flow on site
• LEED certification
• Be an asset for the city
Conceptual Site Layouts

CONCEPT 1
25 Bus Bays (22 internal)

CONCEPT 1A
25 Bus Bays (21 internal)

CONCEPT 1A
20 Bus Bays (16 internal)

CONCEPT 2
21 Bus Bays (16 internal)

CONCEPT 3
23 Bus Bays (17 internal)
Site Plan
Previous Transit Center
View from CCB
Gateway along Washington Street
NE Corner Welcoming Pedestrians
Garden View
Floor Plans
Site Plan
Traffic Operations
Central Business District = Significant traffic operations analysis

**RECOMMENDATIONS:**
- Contraflow bus-only lane along Alabama Street
- Mid-block traffic signals to help buses exit Transit Center
Countraflow Bus-Only Lane

One-way streets create challenges for site access and bus routing.

Under-utilized lanes along Alabama Street.
Countraflow Bus-Only Lane

CHALLENGES:

• Coordination with parking garage operators
• Consider both daily commuter traffic and special event traffic
• Modify overhead blank-out parking sign structure
Bus “Pulse” Traffic Signals

BUS “PULSE”:
- 15 minute “pulse” interval
- Create traffic breaks for up to 16 buses at once

GOALS:
- Maintaining traffic flow along Delaware Street
- Providing safe & efficient access for buses
Signal Spacing

- 250-foot spacing
- Requires careful synchronization and coordination
- Bus demo to help fine-tune opening day signal timing
- Piggyback on DPW’s recent signal fiber optic and Ethernet upgrades
Triggering a green for the bus pulse ("Placing a call to the controller")

Three mechanisms were considered to place the call for a green phase:

1. IndyGo Control Center
2. Transit Signal Priority
3. In-Pavement Vehicle Detection
IndyGo Control of Signals
IndyGo Control of Signals

- **INDY GO SERVER**
  - (the bus pulse schedule is programmed and stored here)

- **CONTACT CLOSURE**

- **ETHERNET SWITCH**
  - MM FIBER OPTIC

- **ATOMIC CLOCK**

  - This will keep the 4 traffic signals synced until Centracs is brought online. And will serve as a backup system thereafter.

- **#14 Cu**
IndyGo Control of Signals

Pros:
- Allows for full integration between IndyGo server, buses, and traffic signals
- Prevents “cut through” traffic from delaying traffic on Delaware Street and Alabama Street
- Gives IndyGo control to adjust their route scheduling

Cons:
- IndyGo concerns with connecting to an unsecure network
- Traffic equipment locked in the IndyGo server room creates additional burden on DPW traffic signal electricians to provide 24/7 support
Pros:
- Allows for integration between buses and traffic signals (and maybe IndyGo servers)
- Prevents “cut through” traffic from delaying traffic on Delaware Street and Alabama Street
- Gives IndyGo control to adjust their route scheduling

Cons:
- Requires additional traffic signals to take full advantage of corridor-wide TPS
- Requires buses to be outfitted with transponders

**OPPORTUNITY FOR FUTURE UPGRADE AS $$ BECOMES AVAILABLE**
In-Pavement Vehicle Detection

Pros:
• Least expensive to implement
• Easiest system to maintain
• Bus drivers have control to adjust for any changes to route scheduling
• Allows and buses that are “stragglers” to catch the next light cycle

Cons:
• No integration between IndyGo server, buses, and traffic signals
• Does not prevent “cut through” traffic from delaying traffic on Delaware Street and Alabama Street
• Call cannot be placed to signal controller until buses queue up
LESSONS LEARNED

8. Talk to local stakeholders and neighbors.
7. Think through the user experience from each mode.
6. Apply extra contingency in a dense environment.
5. Understand your approach to public restrooms.
4. Optimize between bus turning and pedestrian crossing distances.
3. Uncover and explore the site before design where possible.
2. Plan for future IT integration and upgrades.
1. And the number one recommendation...
Bus Mock Ups

TYP. 40' BUS BAY ALONG STRAIGHT DRIVE

TYP. 60' BUS BAY ALONG STRAIGHT DRIVE
Thank You

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