Effective Tools for TOD Planning

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Key Presentation Take-Aways

- MDOT MTA’s TOD Planning Strategy
- Highlight of MDOT MTA’s new tools
  - Online TOD Dashboard
  - TOD Design Guidelines
- Opportunity to share best practices
Background on MDOT MTA

• Transportation Business Unit of the Maryland Department of Transportation
• Operator of rapid transit service in Baltimore metro area, and statewide commuter services
  – Rail Modes include: Metro Subway, Light Rail, Commuter Rail
  – Over 80 stations served by MDOT MTA transit
TOD Planning Strategy

- **ASSESS & PRIORITIZE**
  - Station Development Metrics
  - TOD Dashboard
  - Prioritize investments and station area planning efforts.

- **GUIDE DEVELOPMENT**
  - Design Guidelines
  - Station Area Plans
  - Transit Impact Review
  - Communicate requirements and preferences to developers.

- **MONITOR IMPACTS**
  - Transit Performance Indicators
  - Development Benefit Indicators
  - Continually refine development metrics and design guidelines.
Assess and Prioritize

Station Development Metrics

• Assess TOD potential at MTA stations
• Data-driven approach
• Continually updated and refined
## Station Development Metrics

### Transit Activity
- Rail Lines Served
- Modes Served
- Connecting Bus Routes
- Ridership
- Frequency of Service

### Station Facility
- Track Crossing
- Schedule Information
- Route Information
- Ticket Booth/Machine
- Shelter
- Benches
- Public Restrooms
- Public Phones

### Parking
- Parking Provision
- Parking Utilization
- Ridership-Parking Ratio
- Parking Provision Ratio
- Parking Fee
- EVC Stations
- EVC Station Utilization

### Pedestrian Access
- Intersection Density
- Short Trip Opportunity Analysis

### TOD Zoning
- TOD Designation
- Local Zoning
- Area Master Plan

### Bicycle Access
- Bicycle Racks
- Bicycle Lockers
- Bicycle Locker Utilization
- Short Trip Opportunity Analysis

### Development
- Building Permits
- Permitted Housing Units
- Parcel Structures (year built, size)
Assess and Prioritize

Online Dashboard

• A tool for engaging local jurisdictions, developers, and the general public
• Powered by a selection of the Station Development Metrics
• Transparent data analysis

http://geodata.md.gov/tod/
Assess and Prioritize

Online Dashboard
Guide Development

TOD Design Guidelines

• Clearly communicate preferences concerning design and system connectivity
• External and Internal audiences
• Tailor design based upon to TOD Placetypes
Guide Development

TOD Design Guidelines

Downtown
Urban Neighborhood
Town, Suburban, or Employment Center
Village Center or Rural Town
Guide Development

TOD Design Guidelines
1. Station and Infrastructure
2. Open Space
3. Area Land Uses
4. Network Connectivity
5. Parking for All Modes
6. Wayfinding
NETWORK CONNECTIVITY

BUILT TO SERVE TOD

The table on the facing page shows how street network and connectivity works in the different types of urban forms.
**Downtown**
- TOD should be built within the context of the existing street network, enhance pedestrian and bicycling connectivity, and best facilitate seamless connections among all other intermodal transit options.
- Access to the Station for pedestrians and bicyclists should be given highest priority.

**Urban Neighborhood**
- TOD should be built within the context of the existing street network - TODs should also look for opportunities to make new connections in the street network as feasible.
- Vehicular access for passengers being dropped off.
- Access to station should consider all modes.

**Suburban, Employment Center**
- Access to station should consider all modes, including passengers arriving by automobiles or connecting bus routes.
- TOD should be built to help enhance the existing street network - TODs should also consider new connections to the existing network to help create walkable block sizes. If additional vehicular connections cannot be made within the street network, pedestrian and bicycle trails (connections) are encouraged.
- Station and TOD site plans should allow for efficient transfer among various transit modes.
For the TOD surrounding a well-used transit station, the station will serve to attract bicyclists making transit connections and adjacent businesses can attract those bicyclists as customers. One important tool for doing so is to provide bicycle parking near those businesses.

**Pedestrian Connectivity**

TOD relies on pedestrian activity to create a vibrant environment in the station area. As every transit trip begins and ends with walking, a TOD’s value is directly linked to the ability of passengers to access the housing, jobs, and retail amenities provided within walking distance of the station. Creating a safe, comfortable, and inviting pedestrian environment is integral to its success.

Development around the station should first consider the experience of the pedestrian. Short block spacing, directness of pathways, and dynamic street frontage all contribute to a sense of place and walkability.

**Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and government activities. Depending on where the infrastructure improvements are located within the TOD determines which standards apply. For WMATA and MTA controlled stations all spaces must meet at least Americans with Disabilities Access Guidelines (ADAAG) and Federal Transit Administration ADA Guidelines. Any improvements along SHA managed facilities must meet SHA’s Accessibility Policy and Guidelines, which can be found in SHA’s Accessibility Policy and Guidelines for Pedestrian Facilities along State Highways.

**Intermodal Connectivity**

In general, different transit modes should be located as closely together as possible to encourage the efficient transfer of passengers.
BEST PRACTICES

Balance the needs of all roadway users and prioritize pedestrian activity.

- Apply roadway design and performance standards that reflect the importance of pedestrian activity, and the station context and type.
- Encourage reduced auto speeds in TOD areas.

Create a framework for street hierarchy.

- Design a complete street network with local and collector streets supporting a balanced arterial network.
- Consider where service streets will be to handle deliveries and that they can accommodate large trucks.
- Create a hierarchy of streets within the station area’s zone of the street network to avoid funneling traffic onto the same one or two streets. Plan locations of parking facilities and access points to the external network to ensure traffic is dispersed.

Design block pattern to create connected grid.

- Plan for spacing in TODs with block perimeters of no greater than 2,400 feet. This will ensure walkable blocks of 250 feet to 400 feet by 500 feet to 700 feet.
- Plan TOD streets to enhance the existing street network and provide internal, public connections where street linkages are missing.

Avoid dead-ends and cul-de-sacs

- Dead-end streets should not be included in planning for TOD.
ADDITIONAL RESOURCES

NACTO Urban Street Design Guide
NACTO (National Association of City Transportation Officials) developed this Guidebook that focuses on best practice design approaches to city streets and public spaces in an urban context. The Guidebook emphasizes tenets that support walkability and multimodal mobility, and recognizes that city streets require a tailored approach that is different from non-urban facilities.

NACTO Urban Bikeway Design Guide
This Guidebook provides guidance on state-of-the-practice for accommodating bicyclists on urban streets.

ITE/CNU Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
Endorsed by FHWA and developed jointly by the Congress for New Urbanism (CNU) and the Institute for Transportation Engineers (ITE), this guidebook focuses on context-based street design, as opposed to the conventional functional classification-driven street design.

Guide for Geometric Design for Transit Facilities
This guide provides summary of current practice in the design of transit facilities on streets and highways, based on a review of relevant AASHTO, TRB, and ITE documents, as well as design reports provided by various transit agencies.

SHA Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways
This policy and guidance provides direction to accommodate persons with disabilities, a routine and integral element of planning, design, construction, operations and maintenance activities for all projects.

Complete Streets Complete Networks - A Manual for the Design of Active Transportation
A design process for Chicago’s Active Transportation Policy, this manual includes comprehensive guidance for all elements of street network design.

TCRP Report 153: Guidelines for Providing Access to Public Transportation Stations
Chapter 7 focuses on pedestrian access to transit stations, including factors affecting walking access and design principles. Chapter 8 focuses on bicycle access to transit stations, including factors affecting bicycle access and design principles.

Federal Transit Administration Transit Agency Security and Emergency Management Protective Measures
Under the MAP-21 federal transportation authorization legislation, FTA is able to establish basic safety standards for service and station facilities.

SHA Bicycle Policy and Design Guidelines
This policy and guidance provides direction to transportation planners and engineers for accommodations that improve bicycling in Maryland.

FTA ADA Regulations
FTA guidance on ADA regulations that are applicable at the local level.
## SUMMARY OF NETWORK & CONNECTIVITY GUIDANCE

### At the Transit Station

**Must-Haves**
- Safe and comfortable access points for automobiles, pedestrians, and bicyclists to the station that are intuitive to find and line up with the street network
- Sufficiently wide sidewalks to accommodate anticipated pedestrian flows

**Desirable**
- Internal parking lanes and drive aisles that line up with neighborhood streets
- Dedicated bicycle facilities leading to platforms and/or bicycle parking
- Covered walkways, high-quality walkway treatments to increase visibility and aesthetics
- Keep connecting distances between modes to no more than 500 feet

**Avoid**
- Long blocks or infrequent network intersections immediately around the station
- Pedestrian paths through parking lots
- High-speed auto movements such as channelized right turns at intersections

### Station Site Context

- Complete grid network in all new development; non-auto connections where needed
- Safe and convenient pedestrian and bicycle facilities
- Shelters at bus stops at or near major transit stations

- High-quality bicycle facilities, such as buffered bike lanes and cycle tracks, where traffic conditions warrant
- Curb extensions at bus stops to provide passenger waiting areas
- High-activity land uses as close to the station as possible

- Cul-de-sacs or dead-ends - especially with streets backing the station
- High-speed roads and long traffic signal cycles
- Intermodal connections that require crossing streets or the bus circulating roadway
- Directing bicycles through complex auto or bus circulation areas
Guide Development

Station Area Concept Plans

• What if the TOD Design Guidelines were applied?
• Focus on station access, intermodal connectivity
• Reference capital improvements needed in station area
Guide Development

Station Area Concept Plans
Guide Development

**Transit Impact Review**

- Participate in local jurisdiction site plan review
- Assess accommodation for transit in development early on in the process
- Develop site plan review guidelines for projects outside of station areas
Guide Development

Transit Impact Review
Monitor Impacts

**Transit Performance Indicators**
- Track how transit service (ridership, service quality) is effected by adjacent development

**Development Benefit Indicators**
- Measure the economic and development impact of transit service
  - Refine prioritization & development guidance.
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Thank You!

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