

**SLOW MOVING
VEHICLES**

In a Fast-Paced City

TSITE | Summer Meeting
July 25, 2018

Presentation Overview

Two Areas of Focus

Slow Moving Vehicles in Nashville

- Types of Operations
- Regulations
- Issues & Solutions being Explored

Dockless Vehicles

- Types of Operations
- Issues
- Regulations being Developed (Piloted)

General Discussion on the Topic



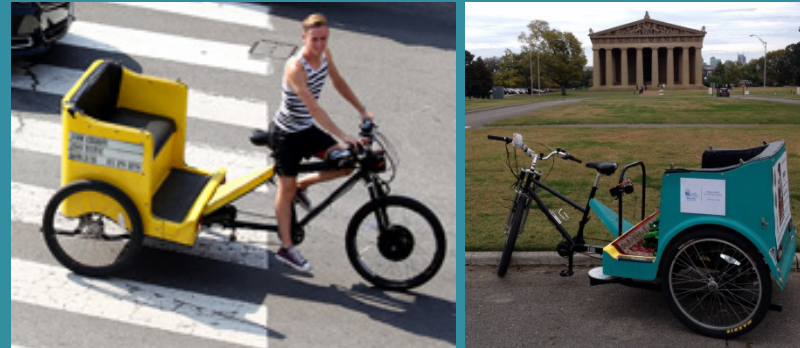
What is a slow moving vehicle?



Slow Moving Vehicles in Nashville

Travel Under 25 MPH

Pedi-Cabs



Pedal Carriage



Low-Speed Vehicles



Horse Carriages



Current Operations of Slow Moving Vehicles in Nashville

Operators	Type	Number of Vehicle Permits
Nashville Pedicab	Pedi-Cabs	20
Music City Rickshaw	Pedi-Cabs	3
Nashville Pedal Tavern	Pedal Carriage	10
Sprocket Rocket	Pedal Carriage	8
Country Music Crawler	Pedal Carriage	1
JoyRide	Low-Speed Vehicle	38
Cruzzin'	Low-Speed Vehicle	10
Hee Hawlin'	Low-Speed Vehicle	4
Music City Touring	Low-Speed Vehicle	4
Sugar Creek Carriage	Horse Carriage	5
Hat Creek Carriage	Horse Carriage	4
Southern Comfort Carriage	Horse Carriage	4
Cumberland Carriage Tours	Horse Carriage	3
American Melody Carriages	Horse Carriage	1
Total		115

Current Operations of Slow Moving Vehicles in Nashville

	License Company	License Drivers	Regulate Routes/Zones	Regulate Times	Number Permitted Companies	Number Permitted Vehicles
Horse-Drawn Carriages (Ch. 12.54)	YES	YES	YES	YES	5	17
Low-Speed Vehicles (BL2014-993 & 10/27/16 Meeting)	YES	YES	YES	YES	4	56
Pedal Carriages (BL2014-925 & 10/27/16 Meeting)	YES	YES	YES	YES	3	19
Pedi-Cabs (BL2014-925 & 10/27/16 Meeting)	YES	YES	YES	YES	2	23

Not just happening in Nashville....



Nashville



Sevierville



Knoxville



Chattanooga



Memphis



Other Vehicles in Nashville

Currently Unregulated by Metro Nashville

Nashville Party Barge



Nashville Tractor



Off the Wagon Tours



The Sound Nashville Music Tour



Old Town Trolley Tours



Gray Line Tours



Nashville's Party Porch



Jack'd Up Nashville



Redneck Comedy Bus Tour



NashTrash Tours



Music City Rollin' Jamboree

Honky Tonk Party Express



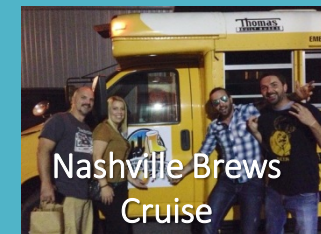
Ultimate Party Bus



Kooter Ray's



Nashville Food Adventure



Nashville Brews Cruise



Music City Brew Tours

Platform/Open Air Party-Vehicles*



Kooter Ray's



Kooter Ray's

Sightseeing/Tour Vehicles

Growing Concerns

Impeding
Traffic Flow



Noise



Increasing Conflicts



Driver charged with aggravated assault with intent to kill in Broadway road rage incident

Natalie Neysa Alund and Natalie Allison, Nashville Tennessean | Published 1:58 p.m. CT July 18, 2018 | Updated 5:01 a.m. CT July 19, 2018



Traffic & Safety

Vehicle Type	Average Travel Speed Through Intersection
Pedal Carriage	5.7 mph
Pedi-Cab	7.2 mph
Horse Carriage	3.8 mph
Low-Speed Vehicle	13.6 mph
Motor Vehicle	16.5 mph

Kinetic Energy Associated with Increasing Speed

Vehicle Weight (lbs.)	Kinetic Energy (ft-lbs) at Different Speeds		
	25 mph	35 mph	45 mph
3,000	63,021	123,520	204,187

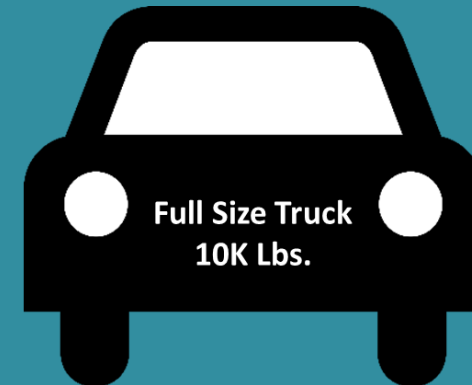
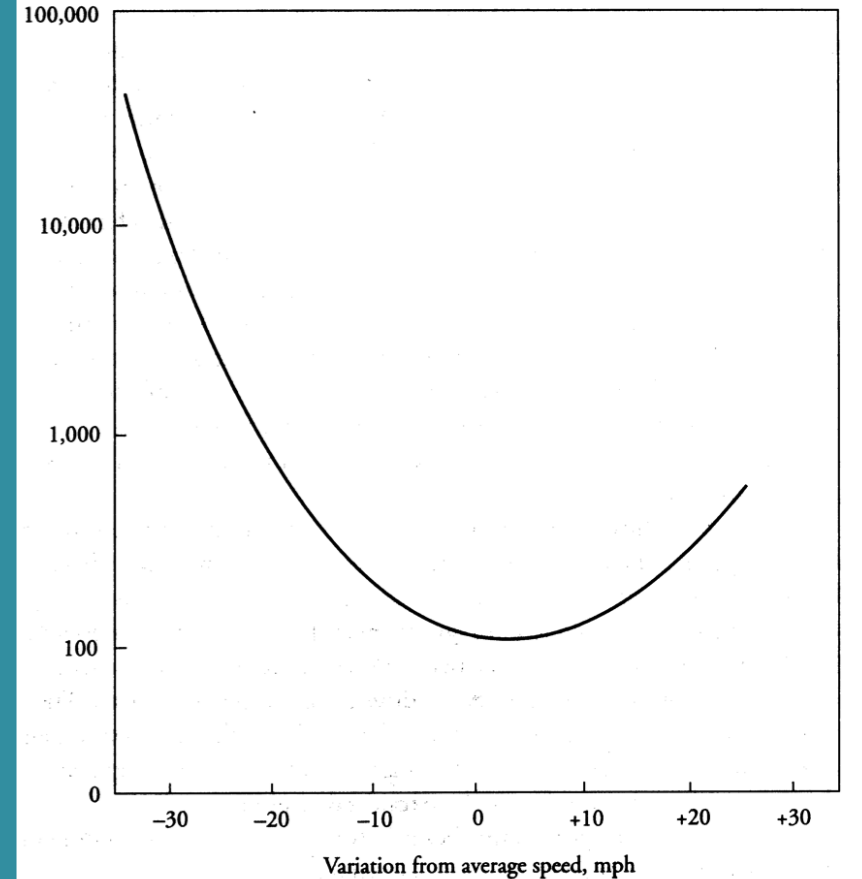


Figure 8-1. Deviation from Average Speed vs. the Collision Rate (Solomon Curve)

Collision rate (per 100 million vehicle miles)



2017 Traffic Counts

(April & May 2017 from 3:00 PM to 7:00 PM)

	Pedi-Cab	Pedal Carriage	Horse Carriage	Low-Speed Vehicle	Tour Bus	Motor Vehicles	Percent Slow Moving Vehicle	Percent Tour Bus
Peak Hour Times - PM (4 to 6 PM)	1	1	0	10	80	11,680	0.1%	0.7%
Non-Peak Hour Times - PM (3 to 4 PM & 6 to 7 PM)	2	9	3	69	70	6,198	1.3%	1.1%

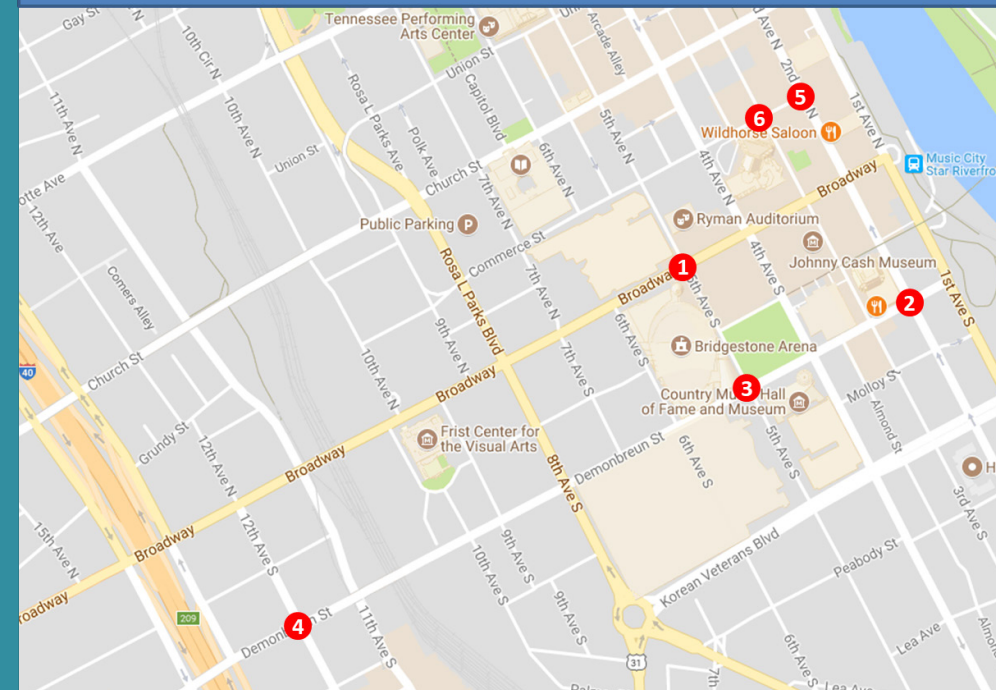
	Pedi-Cab	Pedal Carriage	Horse Carriage	Low-Speed Vehicle	Percent Slow Moving Vehicle (Average)	Percent Slow Moving Vehicle (High)	Hourly Slow Moving Vehicle (High)
Non-Peak Hour Times - PM (3 to 4 PM & 6 to 7 PM)	2%	11%	4%	83%	1.3%	4.2%	27

Time of Day Rules (Monday through Friday)

All SMVs: Prohibited Operation between 7-9 a.m. and 4-6 p.m.

Horse Carriage: Only after 6 p.m.

Traffic Count Locations – April & May 2017



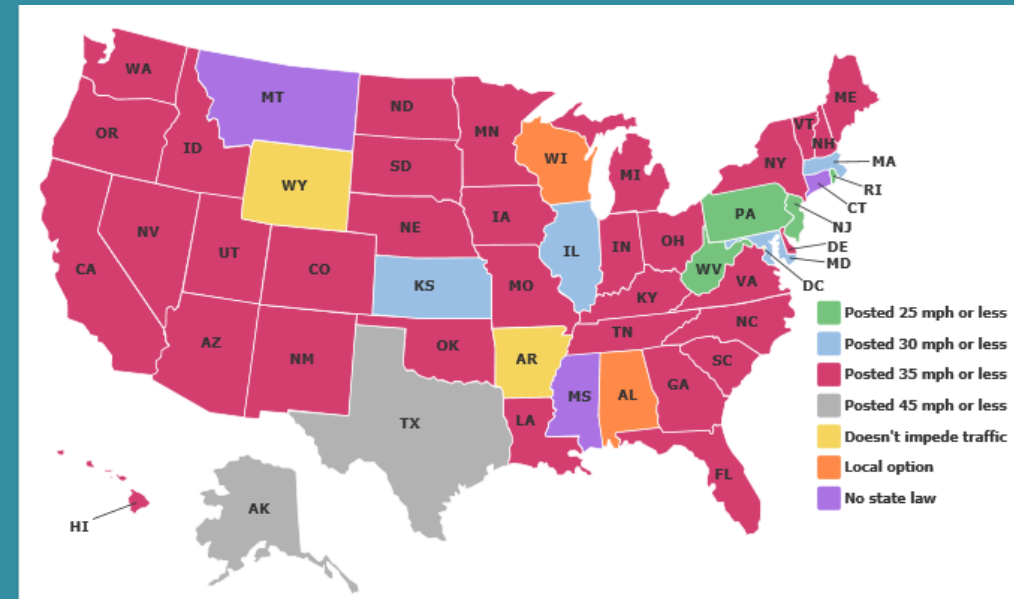
Low-Speed Vehicles (LSVs)

NATIONALLY

- Approved Federally (NHTSA) in 1998
- Envisioned to be used in protected environments (gated communities and campus settings)

TENNESSEE LAW (TCA 55-1-122 & TCA 55-8-191)

- "Low speed vehicle" means any four-wheeled electric or gasoline vehicle, excluding golf carts, whose top speed is greater than twenty miles per hour (20 mph) but not greater than twenty-five miles per hour (25 mph), including neighborhood electric vehicles. LSVs must comply with the standards in 49 CFR 571.500.
- A low speed vehicle as defined in § 55-8-101 may be operated only on streets where the posted speed limit is thirty-five miles per hour (35 mph) or less. This subdivision (a)(1) does not prohibit a LSV from crossing a road or street at an intersection where the road or street has a posted speed limit of more than thirty-five miles per hour (35 mph).
- A county or municipality may prohibit the operation of LSVs on any road under its jurisdiction if the governing body of the county or municipality determines that the prohibition is necessary in the interest of safety.
- The department of transportation may prohibit the operation of LSVs on any road under its jurisdiction if it determines that the prohibition is necessary in the interest of safety.



Source: Insurance Institute for Highway Safety, Highway Loss Data Institute

Review of Other Cities

	ALLOW/REGULATE			
	Pedal Taverns	Pedicabs	Horse Carriages	LSV
AUSTIN	YES	YES	YES	YES
CHARLESTON		YES	YES	
CHARLOTTE	YES	YES	YES	YES
CHICAGO		YES	YES	YES
DETROIT	YES	YES	YES	YES
HOUSTON	YES	YES	YES	YES
KNOXVILLE	YES	YES	YES	YES
MIAMI	YES	YES	YES	YES
MINNEAPOLIS	YES	YES	YES	YES
NEW ORLEANS	YES	YES	YES	YES
PORTLAND	YES	YES	YES	YES
SAN DIEGO	YES	YES	YES	YES
SAVANNAH	YES	YES	YES	
TALLAHASSEE	YES	YES	YES	YES

	REGULATE TIME OF DAY			
	Pedal Taverns	Pedicabs	Horse Carriages	LSV
AUSTIN				
CHARLESTON			YES	
CHARLOTTE				
CHICAGO		YES	YES	YES
DETROIT	YES	YES	YES	
HOUSTON			YES	
KNOXVILLE	YES	YES	YES	
MIAMI	YES	YES	YES	
MINNEAPOLIS	YES		YES	
NEW ORLEANS			YES	
PORTLAND			YES	
SAN DIEGO	YES	YES	YES	YES
SAVANNAH	YES	YES	YES	
TALLAHASSEE			YES	

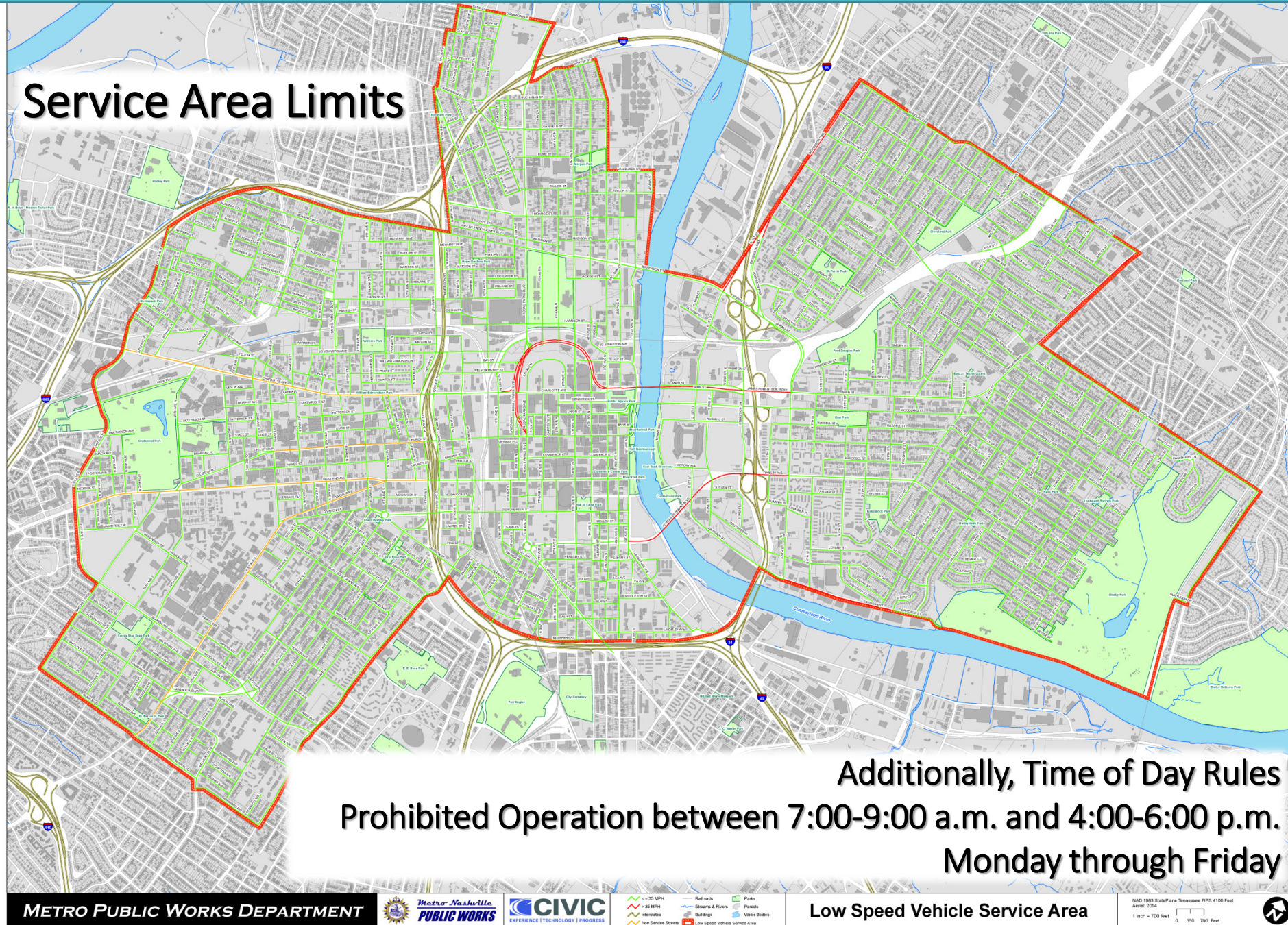
	REGULATE ROUTES			
	Pedal Taverns	Pedicabs	Horse Carriages	LSV
AUSTIN	YES	YES	YES	YES
CHARLESTON		YES	YES	
CHARLOTTE				
CHICAGO		YES	YES	YES
DETROIT	YES	YES	YES	
HOUSTON			YES	
KNOXVILLE	YES	YES	YES	YES
MIAMI	YES	YES	YES	
MINNEAPOLIS			YES	
NEW ORLEANS		YES		
PORTLAND			YES	
SAN DIEGO	YES	YES	YES	YES
SAVANNAH	YES	YES	YES	
TALLAHASSEE			YES	

Low-Speed Vehicles

Current Service Area

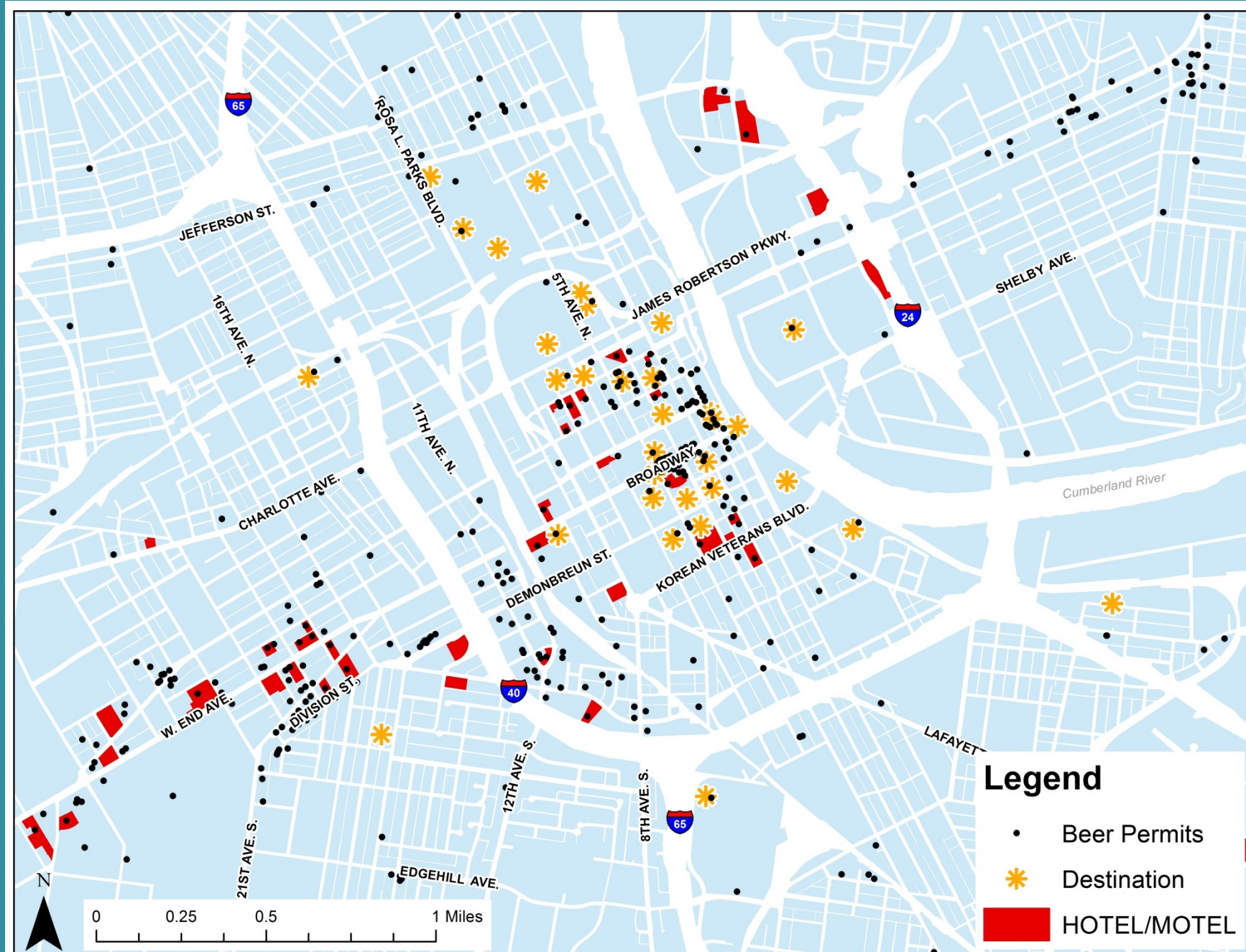
Prohibited Routes

- Interstate System
- West End Ave
- Broadway (upper)
- Charlotte Ave
- Church Street
- 21st Ave
- KVB/Shelby Ave
- James Robertson Pkwy
- Rosa L Parks Blvd



Destinations

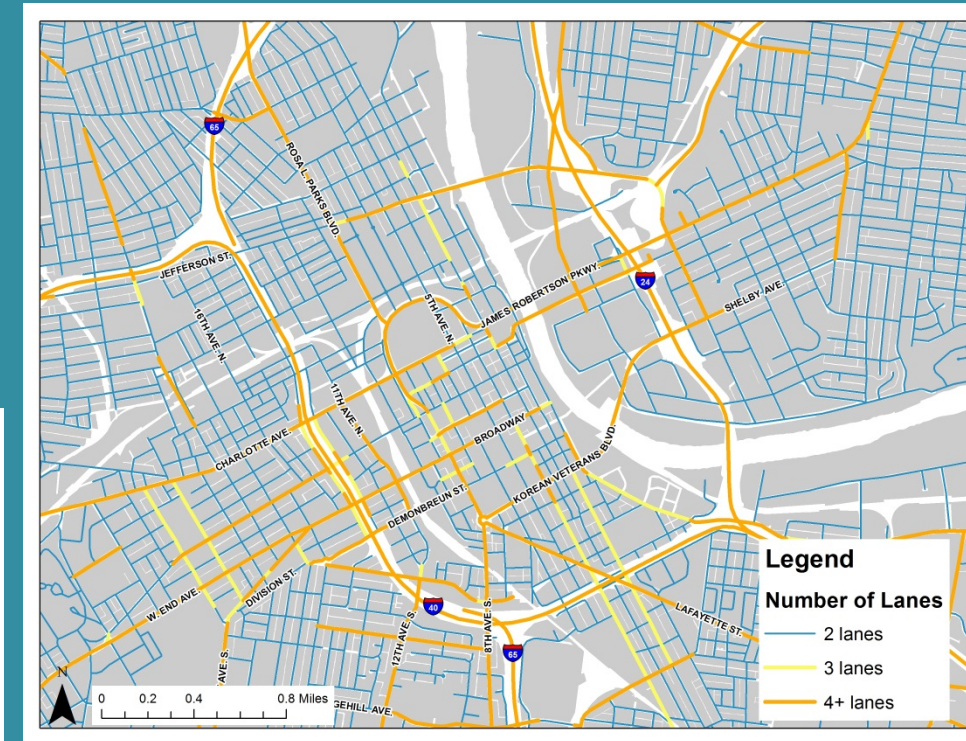
- Hotels, Bars, & Tourist Destinations



Roadway Characteristics

Greater Consideration

- Roadway Posted Speeds
- Number of Lanes
- Traffic Volumes

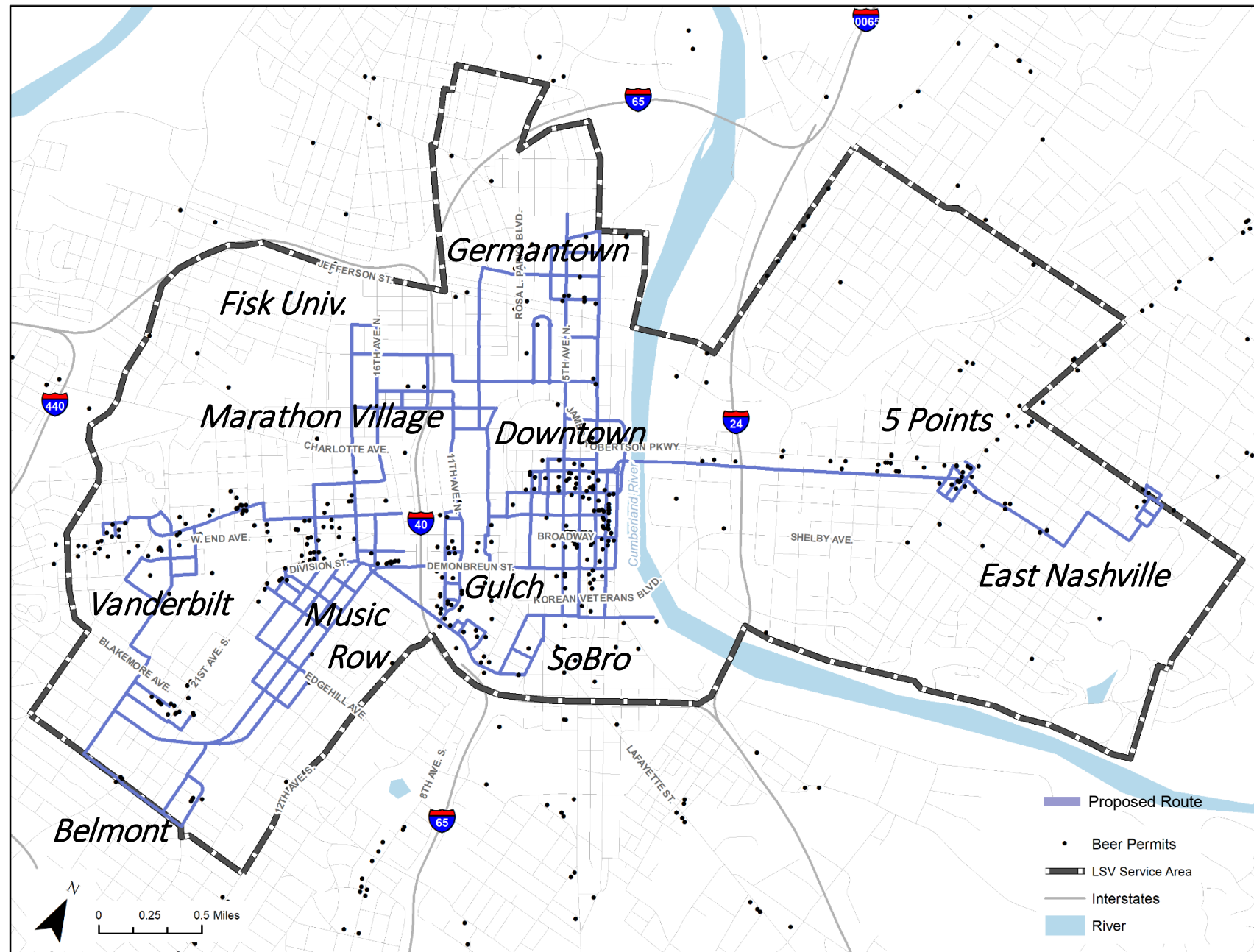


Low-Speed Vehicles

- Restrict Operations (Options)
 - Reaffirm roadways prohibited (speed, volume, etc.) or restrict to designated routes
 - *Could further limit operations by prohibiting tours*
- Prohibit Restriction of Traffic Flow (*i.e., no stopping on routes for tours, already provisions for loading/unloading*)
- Monitor/Enforce Operations (*Require GPS units on vehicles*)
- Enforcement/Education of Parking
 - *Passenger Loading vs Freight Loading - Unloading/Loading of passengers must transpire within 3 minutes (according to Passenger Curb Loading Zone regulations – Freight is 30 minutes)*
- Add Excessive Noise Provision (*similar to Pedal Carriages*)
- Ensure LSV Comply with Equipment Requirements (*NHTSA Standards: headlamps, mirrors, seatbelts, etc.*)
- Enforce Alcohol Restrictions for Passengers
- Maintain Existing Permit Levels - 56



Low-Speed Vehicles

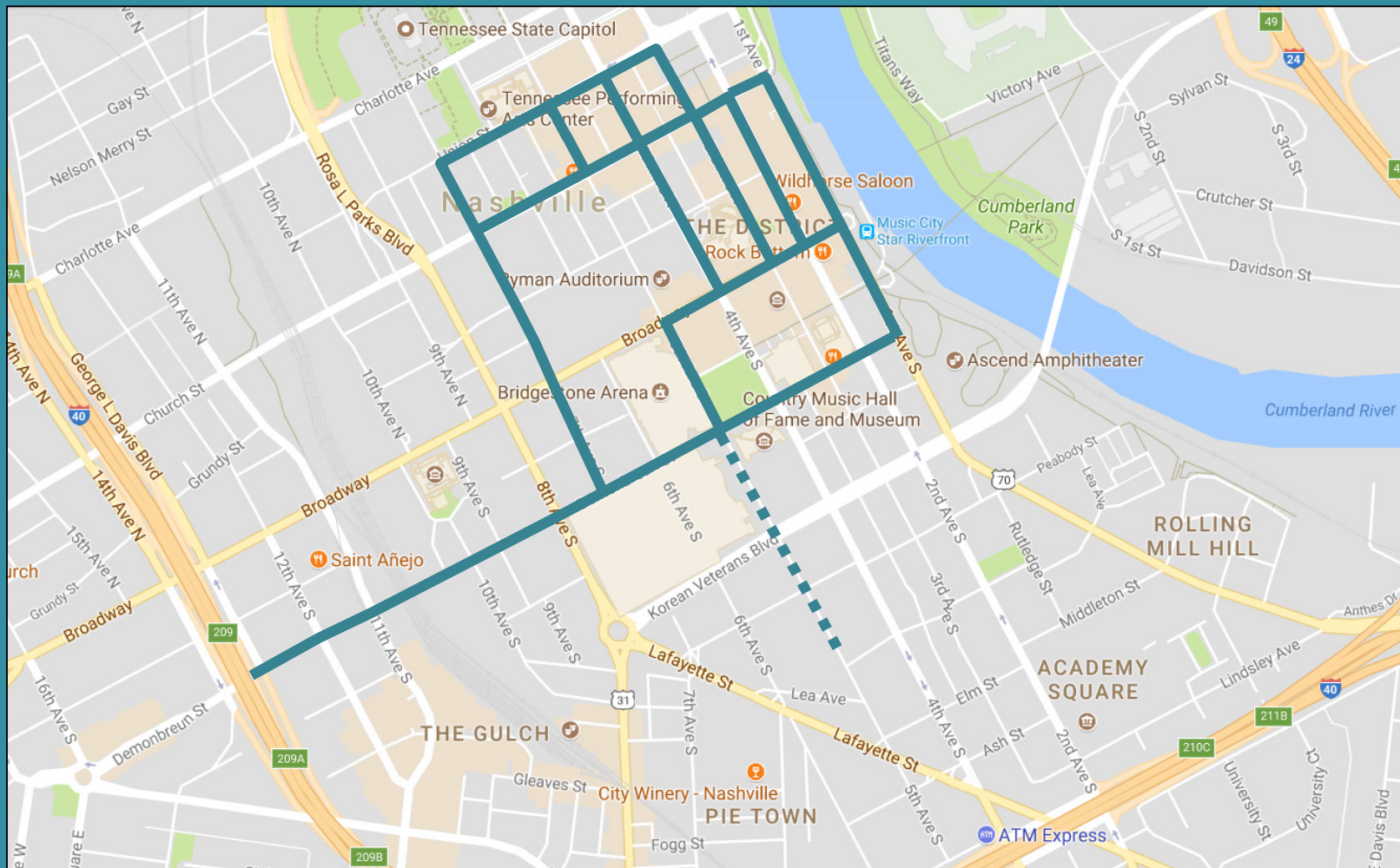


Pedal Carriages

- Restrict Routes - Limit routes similar to LSV, but allow to request additional areas or routes with TLC approval
- Consider Requiring Motor-Assist Capabilities
- Enforcement of Noise Restrictions
- Maintain Existing Permit Levels - 19

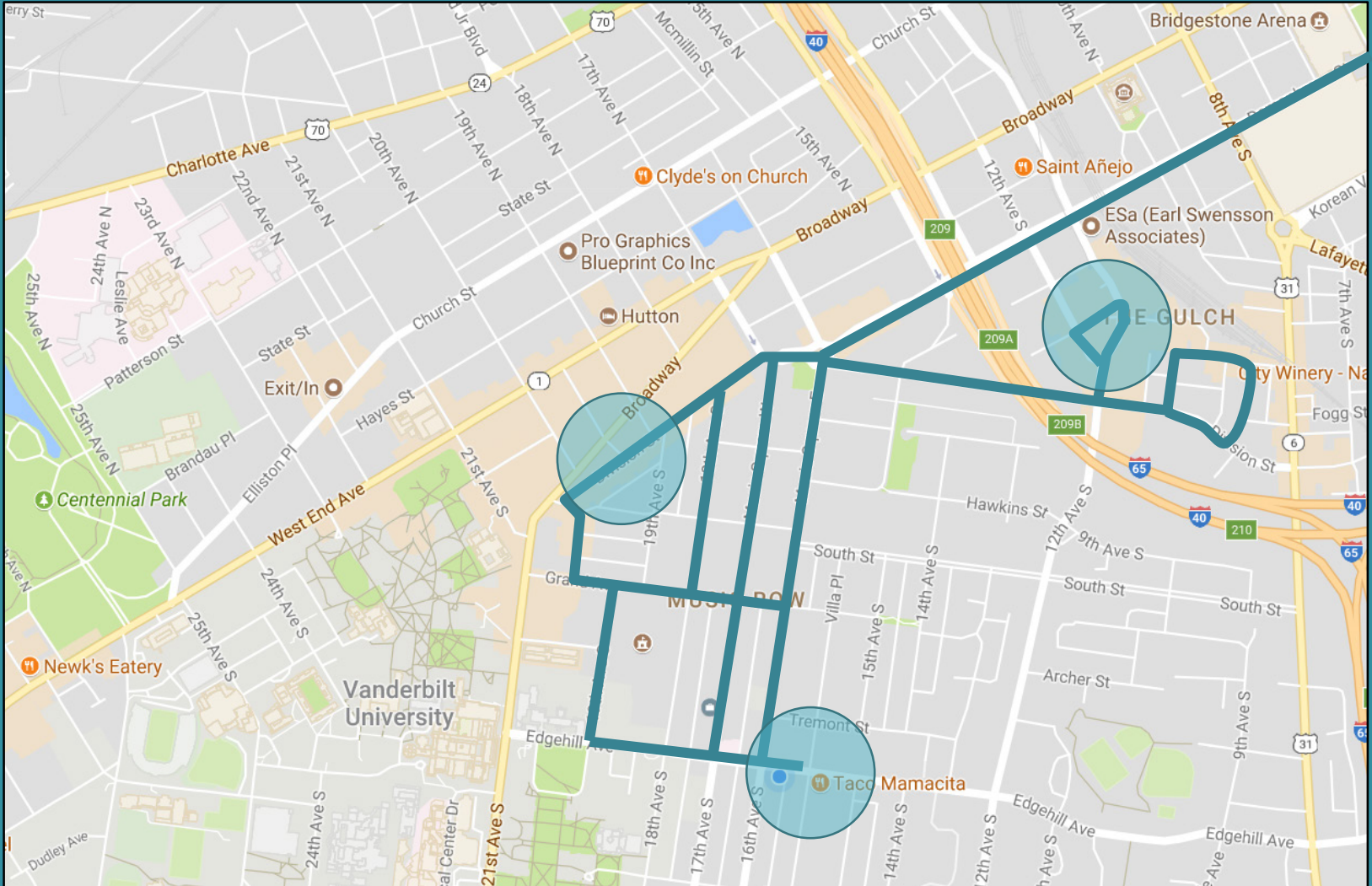


Pedal Carriages



Downtown

Pedal Carriages



Midtown
& the Gulch

Pedicabs

- Consider Requiring Motor-Assist Capabilities
- Consider Adding Noise Restrictions Similar to Pedal Carriages
- Consider Adding Alcohol Provisions Similar to LSVs
- Maintain Existing Permit Levels - 23



Horse-Drawn Carriages

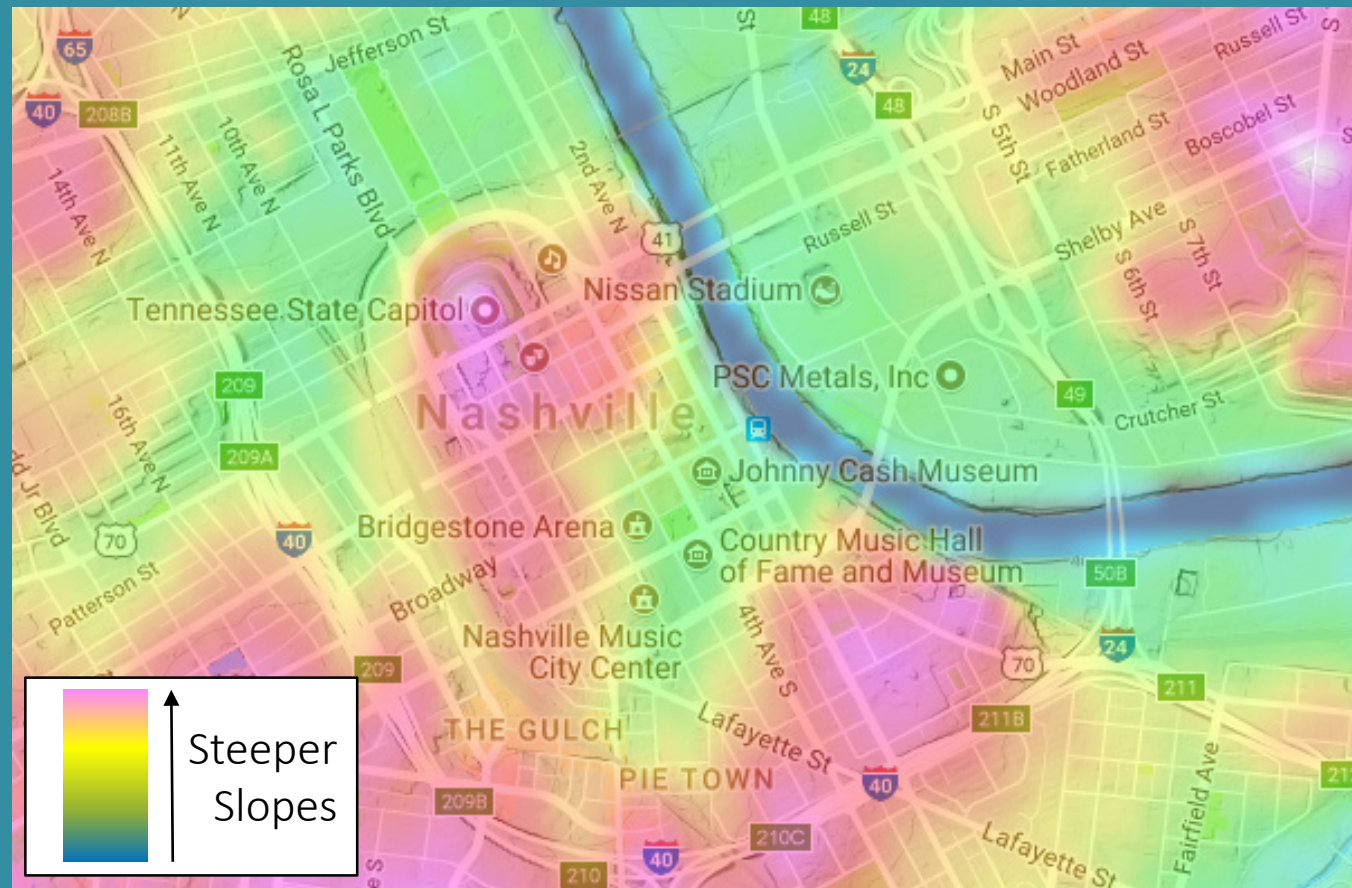
Issues/Concerns

- Traffic Conflicts
- Stand Location
- Limitation of Downtown Streets

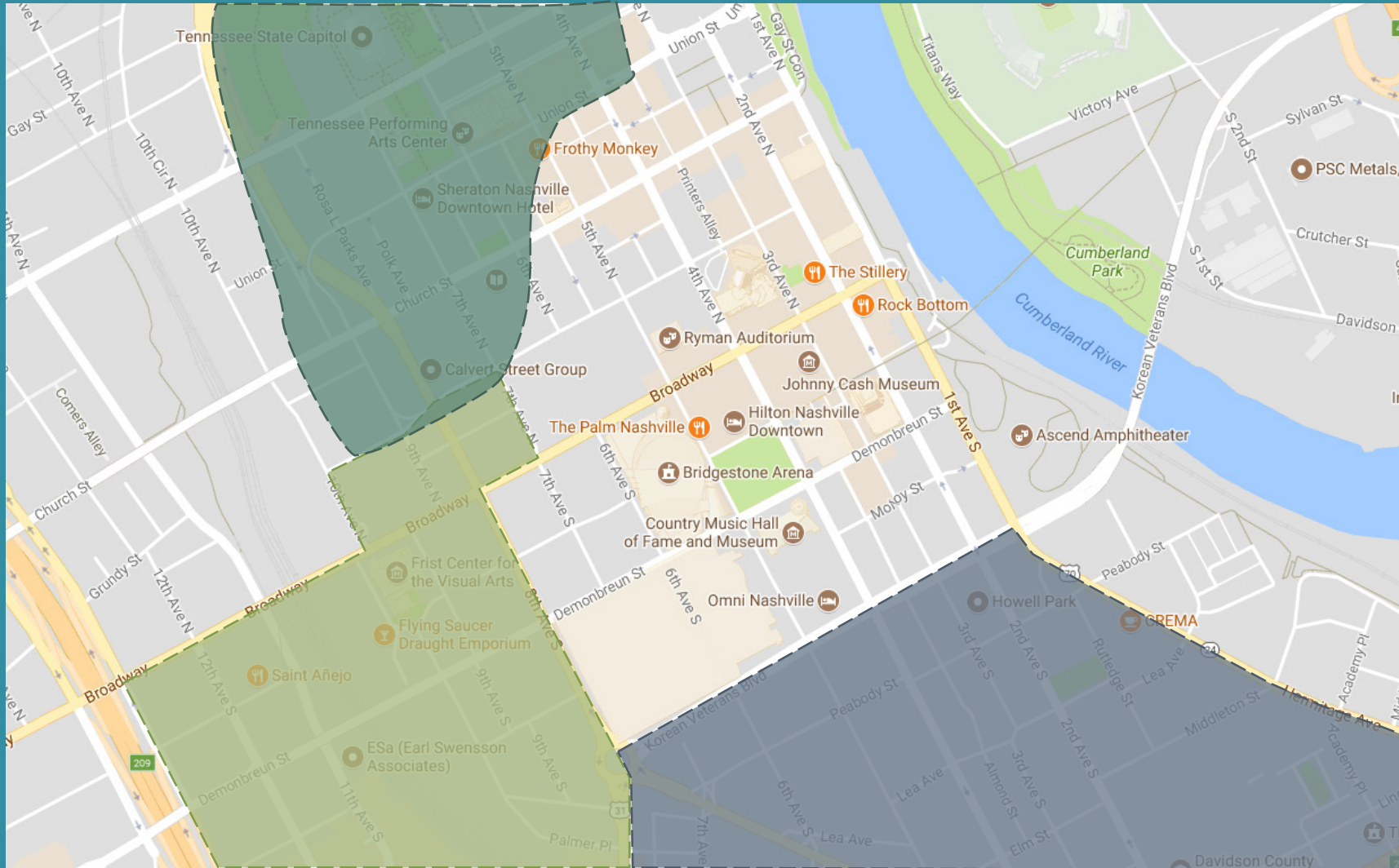
Important Aspects to Consider

- Topography of Downtown Streets
- Desire for Visibility
- Need for Popular Destinations

Topography of Downtown



Horse-Drawn Carriages



Slope Concerns

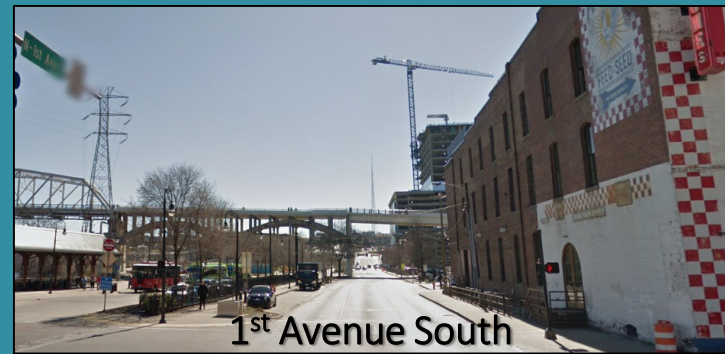
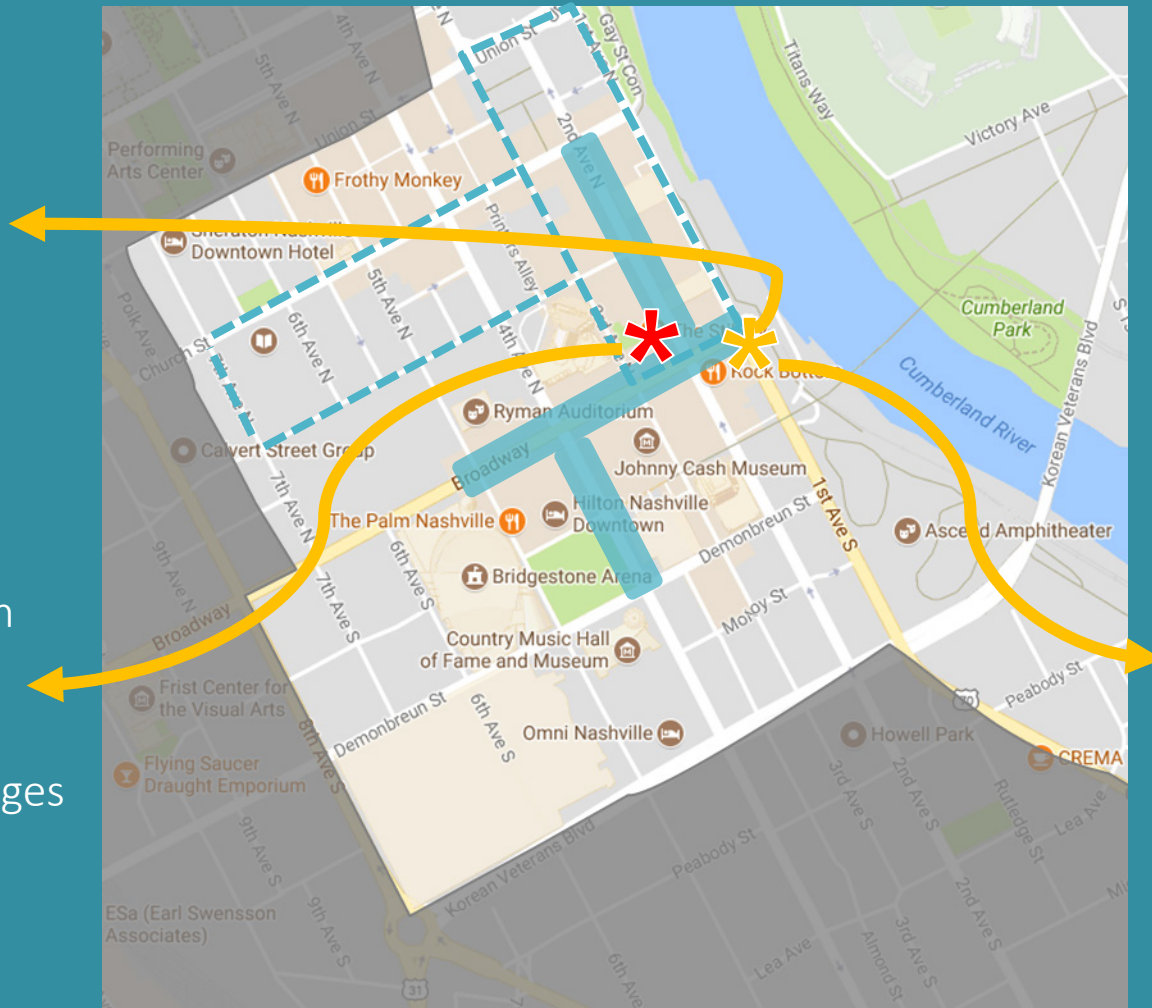
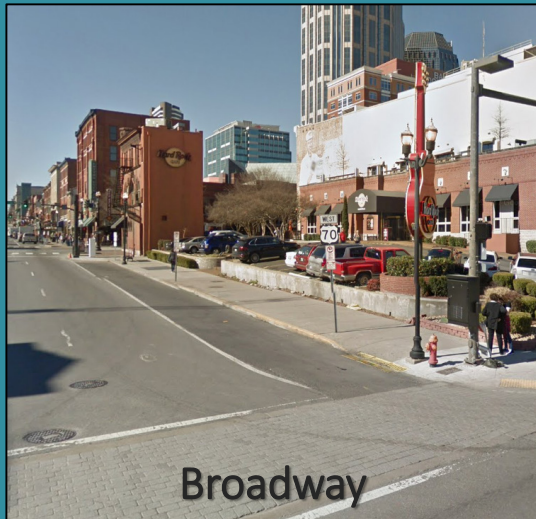
Undesirable

Safety

Horse-Drawn Carriages

Desired Routes/ Destinations

- Route Options
- * Existing Stand
- * Potential Stand Location



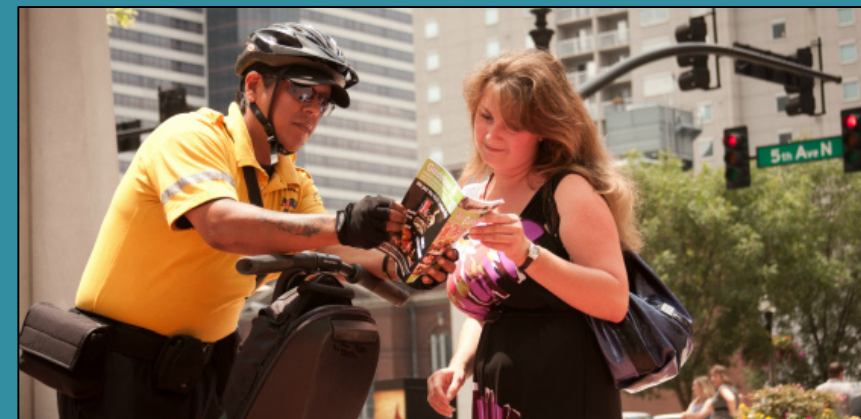
- Adjacent to busy intersection
- Sometimes queues spillback onto Broadway
- Availability of space encourages competition and unsafe operations
- Occupies valuable on-street parking and loading space

- Less queuing issues
- Currently underutilized
- Still maintains high visibility for tourists
- Could potentially lease space to carriage companies as a revenue generator

Horse-Drawn Carriages

Additional Recommendations

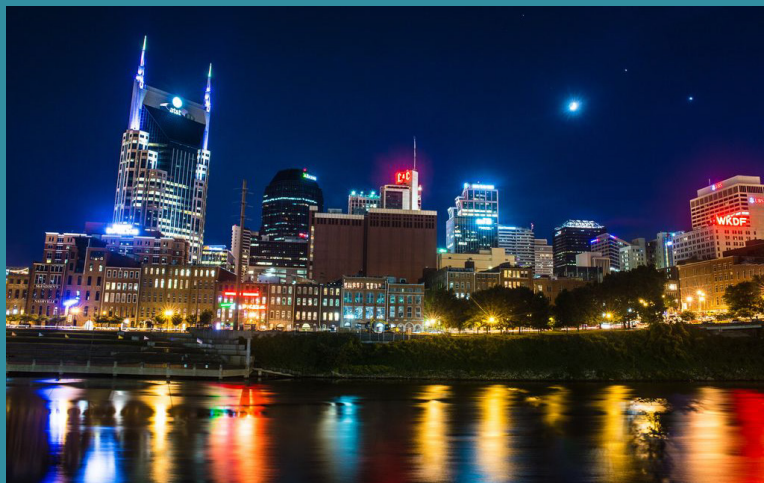
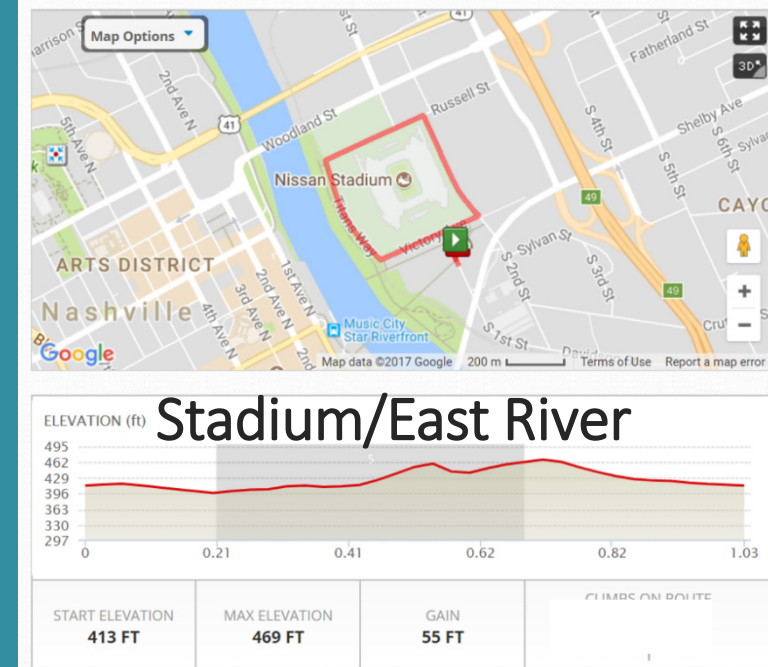
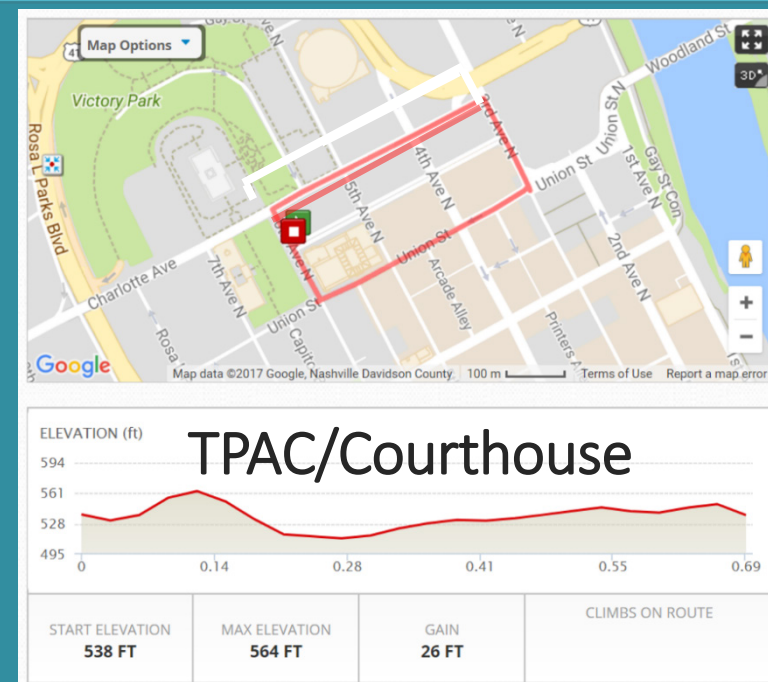
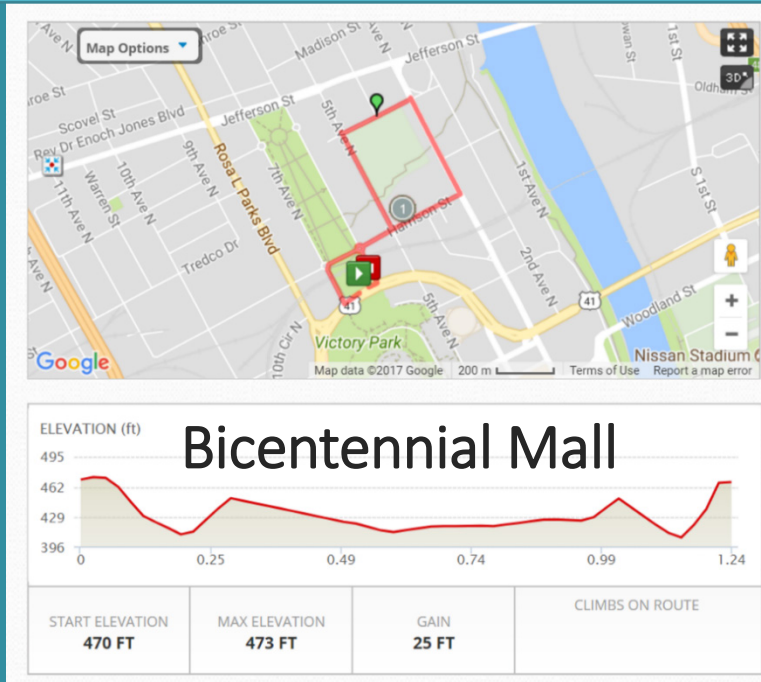
- Limit Number of Carriages (per stand or on street)
- Employ the use of staff to manage carriage stands
 - Metro or Downtown Partnership Employee
 - Would treat like a taxi stand with first-in-first-out queueing model
 - Would help regulate flow of carriages into downtown traffic (e.g., one carriage departs every 15 minutes) and oversee other TLC regulations
- Revise Current Route & Consider Additional Routes
 - TPAC/Courthouse Area
 - Bicentennial Mall
 - Stadium/East River
- Maintain Existing Permit Levels - 17



Additional Horse-Drawn Carriage Routes

Limited Use Routes

- Friday, Saturday & Sunday
- Coordination with Events



Shifting Gears

Shared Active Transportation
Dockless Transportation
Dockless On-Demand Personal Mobility
Shared Urban Mobility
Shared Mobility





Since
 January
 2017



- Bird* – Scooters *GOAT* – Scooters
- JUMP* – Bicycles *Pace* – Bicycles
- Lime* – Bicycles & Scooters
- Ofo* – Bicycles *Skip* – Scooters
- Spin* – Bicycles & Scooters
- Mobike* – Bicycles *Vbikes* – Bicycles

Not necessarily new...but technology & investment levels are



1915



1916



1920



2018

April 2018

July 2018

\$100 Million

\$250 Million

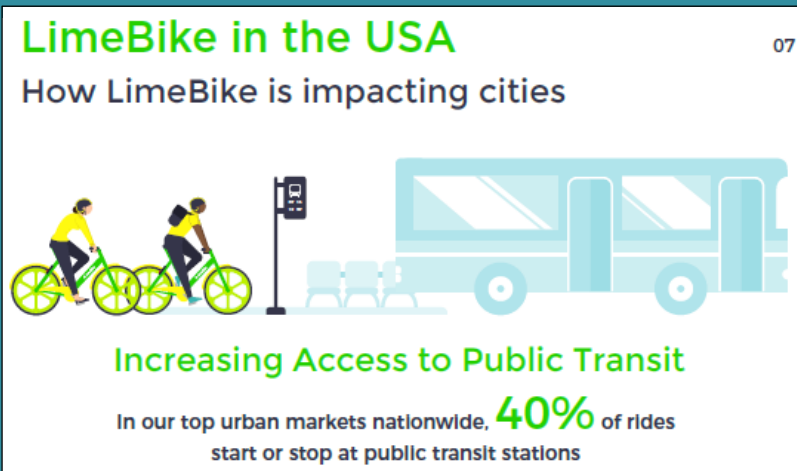
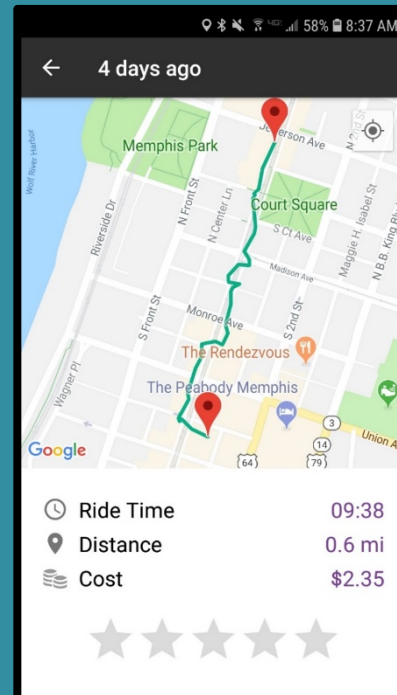
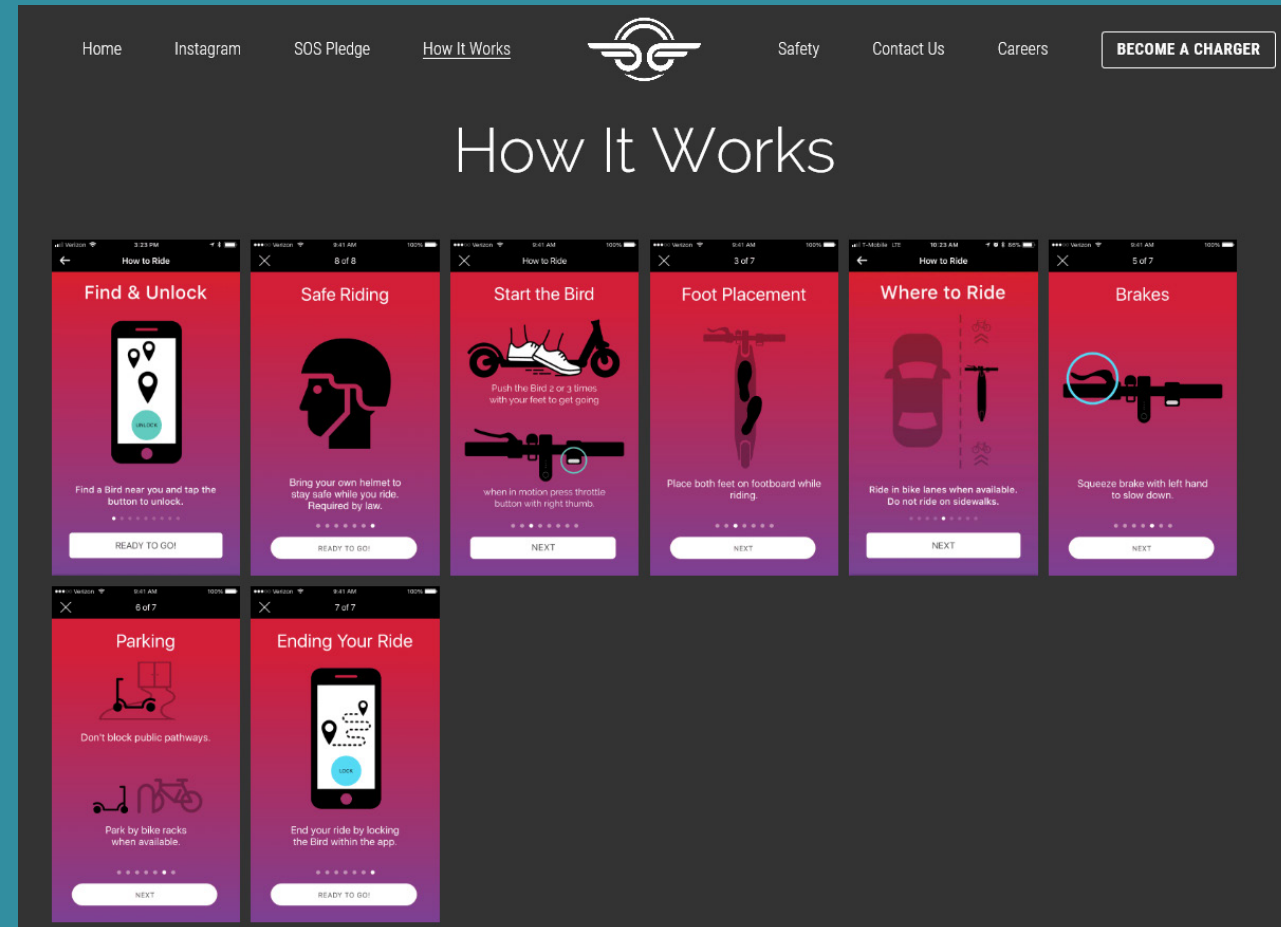
Issues

- **Regulatory Framework Not In Place**
 - *Oversight and Operations*
 - Application Requirements
 - Number of Permits/Fleet Size
 - Service Area, Hours of Operation
 - Fee Structure
 - Equipment Standards/Requirements
 - Insurance Requirements
- **Other Issues & Concerns**
 - *Parking*
 - *Obstruction of Pedestrian Access/Walkways*
 - *Sidewalk Use*
 - *Safety – User Safety, Traffic Impacts, Etc.*
 - *Damaged and/or Abandoned Devices (Clutter)*
 - *Access/Equity*
 - *Potential Impact on Existing Bike Share Programs*



Opportunities

- First Mile/Last Mile Connections
- Data Sharing
- Equity & Increased Mobility Options
- Education & Awareness
- Use of Technology to Manage Use & Parking



Stay Tuned

NACTO Policy 2018

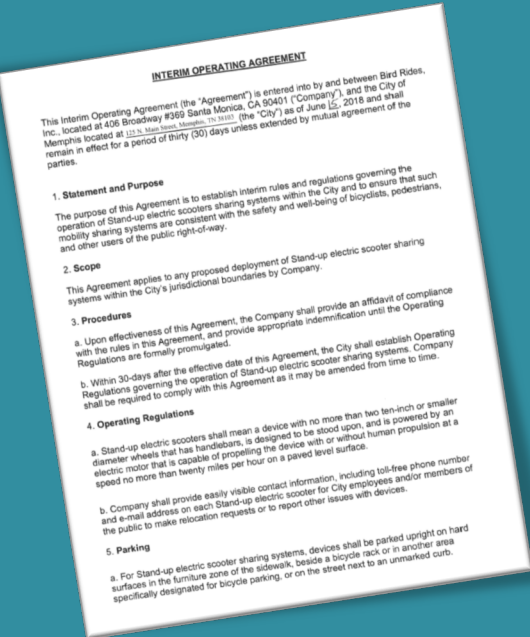
Guidelines for the Regulation and Management of Shared Active Transportation

Version 1: July 2018



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Memphis – Began Pilot Program in June



Nashville – Working on Pilot Program

Other Pilots Underway

- Austin
- Charlotte
- Chicago
- Denver
- Minneapolis
- San Francisco
- Santa Monica
- Washington, DC



A nighttime photograph of a city skyline with several illuminated skyscrapers. In the foreground, a multi-lane highway is visible with light trails from cars, suggesting long-exposure photography. The scene is lit with a mix of city lights and streetlights, creating a vibrant urban atmosphere.

Questions....

Comments....

Thoughts....

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