

## TRANSIT

### **Murfreesboro Pike Bus Rapid Transit**

#### **From Downtown/SoBro to Hickory Hollow at Bell Road – 13mi**

Buses running in majority dedicated lanes with iconic stations, off-board fare collection, platform-level boarding, high-capacity buses, and fast and frequent operations. Project cost also includes significant roadway, safety, traffic management/ITS, pedestrian crossing and sidewalk improvements.

This corridor was selected to advance the first bus rapid transit in Metro receiving a “BEST” in constructability as well as overall favorable rating from the NMotion recommendations and High Capacity Transit Study. Additionally, Murfreesboro uniquely offers access to service jobs and other employment at the Airport and connects the Tier 1 Center at Hickory Hollow identified in Nashville Next for “grow with intention”. In addition to providing access to jobs at the airport there is opportunity for funding partnership as was identified in Let’s Move Nashville for participation by both the Airport and Convention Center Authority. Ridership on existing service is up about 12.9% compared to last year.

#### **CAPITAL - \$418M (\$32M per mile)**

Federal	Local	OPERATING
\$104.5M	\$313.5M	<p style="text-align: center;">\$1.4M per year* (*in addition to current operating costs)</p> <p style="text-align: center;"><i>(4a - 1a; 7 Days Per Week; 10-Minute Peak; No Worse Than 20-Minute Headways Off-Peak)</i></p>

### **Clarksville Pike Rapid Bus**

#### **From downtown to Bordeaux at King's Lane – 6.9mi**

Infrastructure upgrades where feasible such as queue-jump lanes, transit signal priority, off-board fare collection, enhanced stops/stations, high-capacity buses, and fast, frequent service.

This corridor’s improvements for rapid bus will particularly leverage the planned Neighborhood Transit Center at Clarksville Pike and 26<sup>th</sup> Avenue North will serve as a key station for Rapid Bus service in the Bordeaux-Clarksville Pike corridor, and a connection point to other WeGo Public Transit services. At this Center, riders on Clarksville Pike Rapid Bus service will be able to connect to the Jefferson Street corridor via the 25 – Midtown route; the neighborhoods of North Nashville via the 42 – St.

Cecilia/Cumberland route; the jobs of Metro Center and Germantown via a planned extension of the 9 – Metro Center route; Tennessee State University and the West End via a planned extension of the 21 – Wedgewood route; and a possible connection to East Nashville (including service along Dickerson and Gallatin Pikes) via a new Trinity Lane crosstown route, called out in WeGo Public Transit’s Better Bus plan. This Neighborhood Transit Center will also promote connections to other mobility options such as rideshare operators, carshare operators, bikeshare, etc. Customers will see significant upgrades in amenities, including a climate controlled waiting area, fare product vending machines, and real-time digital travel information. The location of this center is ideally situated at the nexus of WeGo Public Transit’s North Nashville services, as well as surrounding neighborhood facilities such as the McGruder Family Resource Center, Cumberland View Housing Complex, and emerging affordable housing options along Clarksville Pike.

**(Clarksville Bordeaux Rapid Bus continued)**

**CAPITAL - \$94M (\$8.5M per mile)**

Federal	Local	OPERATING
\$23.6M	\$70.4M	<p style="text-align: center;">\$840,000 per year*  (*in addition to current operating costs)</p> <p style="text-align: center;"><i>(4a - 1a; 7 Days Per Week; 15-Minute Peak; No Worse Than 20-Minute Headways Off-Peak)</i></p>

**Better Bus (Comprehensive Network Redesign – Fixed Route Service)**

Build a fixed-route bus transit system that is convenient, competitive, and reliable—by establishing an all-day, all-week network; promoting spontaneous and choice transit use; reducing travel times; and making transit easier to understand. Features new crosstown routes and improvements to frequency and span of bus service, as well as infrastructure upgrades to improve system reliability, safety and dignity of customer experience. (List attached of Better Bus Shelter locations, service improvements descriptions and map)

**CAPITAL - \$149.85M**

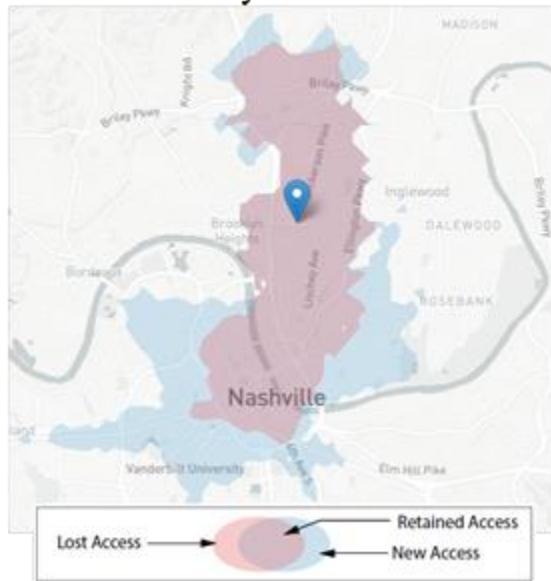
	Federal - Capital	Local - Capital	ANNUAL OPERATING*
<b>Bus Fleet Expansion to Meet Increased Frequency, New Crosstown/Circulator Routes, and AccessRide Improvements,</b>		\$10.55M	\$14.32M+++
<b>Neighborhood Transit Centers</b>		\$80M	\$2.4M
<b>Downtown Transit Priority</b>		\$10M	-
<b>SoBro Transit Hub</b>	Possible competitive USDOT discretionary BUILD Act candidate due to public-private partnership	\$40M	\$800,000
<b>Bus-Stop Shelters</b> (68 new; 25 expansions)		\$9.3M	\$300,000
<b>Fare Discounts</b> (social equity program)		—	\$750,000
<b>Mobility-On-Demand First/Last- Mile Feeders</b>		—	\$3.5M

The Better Bus Improvements will be transformational to existing Metro wide WeGo service and are generally targeted at improvements that have been requested for years. In the future, dedicated lanes, transit priority and a significantly enhanced pedestrian environment will also boost the ridership gains further that may be made with a bus system improvements including cross connectivity and neighborhood transit stations currently absent in the transit landscape. The shelter expansion project is about equity as well as quality of our service and experience for all who use it.

Generally, the impact of the Better Bus improvements is expanding the numbers of opportunities folks have to access things like jobs, education, etc. in a reasonable amount of time. In that sense, the real economic return is not to MTA in the form of fare revenue, ridership or cost recovery; it is to the people

who use it in the form of expanded economic opportunity. Analysis example done from specific points in the City of improved access.

## Improved Weekend Access: Dickerson & Trinity Lane



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**TOTAL TRANSIT CAPITAL:\$661.85M**  
**Federal \$128.1M Local \$533.75M**

**+ \$10,675,000 for affordable housing investment along Murfreesboro and Clarksville Bordeaux corridors**  
**(2% of local capital Transit & Affordability Task Force report January 2018 p.14)**

**TOTAL ADDITIONAL ANNUAL OPERATING: \$24.31M\***

\*In addition to current WeGo annual operating budget (approx. \$90M). Add annual provisions for inflationary increases (“maintenance of effort” relative to current appropriations).

The transit portfolio specifically delivers on campaign commitments for Transportation and Affordable Housing pages 24-30.

## **TRAFFIC/MULTIMODAL/SAFETY**

### **\$200M Sidewalks** (from current backlog and prioritization)

Will address >80% of priority sidewalk needs across the County.

### **\$200M State of Good Repair** (resurfacing, potholes, bridges, ADA)

Covers current gap in fully funding the annual paving and sidewalk repair budgets. Also fully addresses the backlog of paving needs and needed culvert/bridge repairs. Brings approx. 30% of non-ADA compliant sidewalks into compliance.

### **\$175M Jefferson Street Multimodal Cap/Connector**

From Nashville Civic Design Center's Plan of Nashville and U.S. DOT Every Place Counts Challenge, a cap over I-65/I-40 could better connect the west and east sides of North Nashville with Jefferson Street serving as the anchor with several alternatives. The Jefferson Street bridge over I-40 (National Bridge ID: 19100400057) carries approximately 14,000 vehicles per day. It was built in 1967 and was last inspected in 2013. At that time, it was rated to be in good condition, but narrow, cracked sidewalks and 24' wide travel lanes create a hostile pedestrian environment on this bridge. The D.B. Todd Boulevard Bridge over I-40 (National Bridge ID: 19100400053) carries approximately 10,000 vehicles per day and was also constructed in 1967. That bridge is considered functionally obsolete. It is a significant pinch point in one of North Nashville's primary bikeways as noted in the Nashville Next project description. In 2015, TDOT replaced eight I-40 bridges originally constructed between 1967-1969. Unlike those bridges, the Jefferson Street and D.B. Todd bridges are not yet structurally deficient. However, as this infrastructure ages it will be important to ensure a state of good repair, seek opportunities to reconnect bifurcated communities, and expand access to social and economic activities. Potential funding opportunities such as the BUILD federal grants are well suited to this type of project.

### **Impact of Infrastructure**

The negative impacts of I-40 predicted by community members have been validated by numerous academic studies and local observations by professional planning staff in the years since I-40 was constructed through North Nashville. Concerted efforts by community organizations with support from local, state, and federal government officials, has helped to mitigate some of the impacts of the interstate highway, but significant barriers to economic development and community revitalization remain in the forms of aging, dilapidated infrastructure. Nashville's participation USDOT's Every Place Counts Design Challenge helped to create a vision for transportation infrastructure that could serve as a point of pride rather than a point of shame. The design produced laid the groundwork for future applications for funding or local capital budget appropriations. A large-scale intervention like a partial cap could create new affordable office or retail space, supply shared parking, or support affordable housing for parcels made undevelopable because they were narrowed by the construction of the highway. Such an intervention could yield safety and placemaking benefits, generating economic value

for neighbors and bridge users. For estimating purposes, an 8 acre cap (450,000 SF) was assumed at \$500 SF relying upon recent experiences of other communities in developing similar interstate cap projects.

In July 2016, U.S. DOT hosted Every Place Counts Design Challenge visioning workshops in four cities to engage directly with neighborhoods adjacent to planned or existing transportation infrastructure projects. These workshops convened federal advisors, state agencies, local officials, community organizations, and neighborhood residents to explore design and policy approaches to creating connected, economically prosperous, and environmentally and physically healthy communities. In Nashville, TN, community leaders from historically African-American North Nashville discussed reversing the decline of neighborhoods along Jefferson Street where I-40 divides the city. The project area includes the Jefferson Street corridor that travels over I-40 near the I-65 interchange in North Nashville and the D.B. Todd Boulevard bridge over I-40. The interstates bifurcate the residential neighborhoods of Elizabeth Park, Fisk, and Meharry. The Jefferson Street commercial district was bridged for the construction of the interstates. Commercial services for the area are primarily located along Jefferson Street. Residential neighborhoods flank the corridor and were directly impacted by the interstate construction.

- **Improving Connectivity along Jefferson Street:** Metro Planning and the local community both recognize the need to improve connectivity to Jefferson Street. The city's 2015 Nashville Next General Plan identifies significant walking and biking projects—originally components of the Gateway to Heritage Walking Improvements project.
- **Plan for Aging Infrastructure:** While Jefferson Street and D.B. Todd Boulevard bridges are not yet structurally deficient, they continue to age. The community sees their replacement as an opportunity to reconnect bifurcated neighborhoods and expand access to social and economic resources.
- **Connect to Past Work and Ongoing Efforts:** The Gateway to Heritage Project improved the area near the 28th Avenue and Jefferson Street interchange. Further improvements that build upon this initial work might include partial capping and bike/pedestrian overpasses or underpasses.
- **Explore a Partial Cap of the Highway:** A large-scale intervention like a partial cap—explored in the Nashville Civic Design Center's *Shaping the Healthy Community*—could create new developable land, improve parking, and support affordable housing for parcels rendered undevelopable by the highway. A smaller-scale intervention may also have profound impacts, such as a “quick-build” project for immediate improvements to conditions on the existing bridge deck.

## \$117M Restoration and Resiliency, State Routes, Partnership Funding, and Innovation & Sustainability Corridors (MLK/Charlotte, Gallatin)

Funding to provide for ongoing infrastructure restoration and resiliency efforts in the North Nashville, East Nashville, Germantown and Donelson areas hardest hit by the recent storms. Resiliency may focus on those efforts to harden infrastructure to better withstand future events.

This funding category will also allow for future partnerships with TDOT on needed State Route/Interstate improvements including those addressing freight and congestion in Metro, other federal/state/PPP funding, emerging needs and opportunities arising over the life of the program.

\$7M is set aside for the MLK/Charlotte Avenue Innovation Corridor & Gallatin Sustainability Corridor serving as living labs for technology and sustainability pilots and demonstrations including smart signals, crosswalks, parking, CAE vehicles, green infrastructure, solar powered features such as crosswalks, lighting, native species ROW plantings, and others.

The MLK/Charlotte Avenue fronts the State's Capital building and continues as a densely developed corridor with 88,000 jobs and 16,000 residents living within a half mile of the corridor. Several large medical complexes, Centennial Park and Art Center occupy the corridor and most notably, Vanderbilt University, with 12,000 students and 8,000 faculty and staff are within a half mile of the corridor. The existing development and diversity of uses as well as potential partnership with Vanderbilt University engineering make this an optimum location for pilots demonstrating how technology can improve and balance mobility needs which is a noted goal for the Charlotte Avenue Corridor Study completed in October 2018. Additionally, as was done in Chattanooga, honoring Dr. King with a corridor that advances our future mobility is a fitting action.

The Gallatin Corridor will leverage all sustainability activities deployed in the corridor including transit, bike and pedestrian improvements, solar, native plantings and landscaping, stormwater runoff management, potential cool street pavement and other technologies to demonstrate sustainability practice and value.

### **[\\$75M Safety/Vision Zero/Traffic Calming](#)**

This program of funding would serve to address the existing backlog of traffic calming requests maintained by DPW as well as to address operational safety improvements supporting the Vision Zero Action Plan (under development) addressing the highest accident locations and safety initiatives. Fully funds all traffic calming requests and provides ongoing maintenance of traffic calming devices. Addresses 10-15 major arterial issues per year.

### **[\\$35M Active Transportation/Bikeways/Greenways](#)**

Funds approx. 7 miles of new bikeway every year, growing our network by 20% over 5 years. Greenway needs TBD.

## \$15M Traffic Management System/Signal Upgrades

Implement the recommendations of the Traffic Management System Evaluation currently underway. Significant reductions in travel time delay and safety improvements through improved traffic flow and management are anticipated.

Full intersection detection upgrade – 30K – 20 intersections per year – 600K per year

Partial detection upgrade – 20K – 10 intersections per year – 200K per year

Communications – 500 per node per year – assumes 500 that would be 250K per year.

TCC – 1.5 million in year one and 4 staff each year upon commissioning at \$250K per year

Timing development and TR implementation – 3K per intersection – 200 intersections per year 600K

CCTV installations – 6K per node – 50 locations per year – 300K

Connected vehicle and new technology testing – 10K per location – 20 locations per year – 200K

Intersection rewiring – 50K per intersection – 20 intersections per year – 1Mil

Based upon FHWA and State DOT's research of similar projects, with the \$15 million spent incrementally projections are that the Nashville area will directly benefit ranging from \$400-\$500 million in benefits (delay, fuel, and reliability) while allowing for the expected growth to occur without adversely impacting quality of life in the region.

**Total \$817M Capital**

**Total Operating \$2.063M additional over current funding for DOT functions**

The traffic/multimodal/safety portfolio specifically delivers on your campaign commitments under Transportation.

**OVERALL CAPITAL \$1,489,525,000**

**OVERALL OPERATING \$24.133M additional for transit and all other**

**REGIONAL AND STATE COORDINATION THROUGH GNRC AND TDOT** - Inner Loop, Congestion Study and evaluation of how technology may be used to manage truck traffic on our freeway system. Coordination for potential Amtrak service to Atlanta. Ongoing collaboration with adjoining counties.

**DOWNTOWN NASHVILLE** improvements will be undertaken through “bucket” categories including traffic management, safety, sidewalks and others as well as Better Bus programming defined through the Downtown planning effort underway including curbside infrastructure and parking management.

**AFFORDABLE HOUSING STRATEGY:** Includes the 2% funding of local capital detailed in the transit section above and commitment to an inventory of those corridors for existing affordable housing, forecasted need and identified opportunities/areas for development.

**DEMONSTRATION OF CAPABILITY TO DELIVER AND MANAGE:** Several past Metro initiatives have acknowledged the need for a department of transportation organization that is focused on the development, delivery, operations and management of the Metro mobility efforts. Such organizations, in addition to creating a performance driven structure around transportation, also yield advantages in the competition for partnership funding with clarity of responsibility and accountability. To that end, the attached organizational chart draft contemplates the organization of transportation activity that currently is spread across multiple departments.

#### **FUNDING STRATEGIES AND YIELDS OF CERTAIN OPTIONS:**

A penny of the following generates annually:

Local Option Rate \$200M  
Property \$3M  
Gasoline \$1M

Source: Finance

#### **Funding Strategies**

The transportation program we are envisioning at this time combines high priority projects and programs identified in the various technical studies conducted by the City and MTA/WeGo, including NMotion, and confirmed over the course of our council member, community and stakeholder outreach meetings over the past few months (attached summary of results to date). As shown above, our priority transit program is a blend of BRT, Rapid Bus, and comprehensive Better Bus fixed route service redesign. Supplementing our transit projects are key multimodal traffic safety projects and programs, including sidewalk improvements, traffic management, bike and pedestrian improvements, Vision Zero accident reduction projects, as well innovative projects like the Jefferson Street Multimodal Cap/Connector and Innovation Corridors. Affordable housing and equity considerations are also integral to the program.

As the entities responsible for advancing seamless transit and mobility for our communities, the City and MTA will focus on defining the full range of funding and financing options available to transit at the federal, state, and local levels. For our proposed BRT and Rapid Bus projects, we will target the FTA Capital Investment Grant (CIG) Program for funding. Similarly, for the Multimodal Cap/Connector and Innovation Corridors, we will target other federal discretionary grant programs like BUILD and FTA's Integrated Mobility Innovation (IMI) Program funds, with existing local funds as match. New local, state, and private sources will be needed to supplement existing local funds and provide the leverage required for our projects to be

competitive, considering both capital and operating needs. And while CIG projects used to be funded at or above 50 percent, FTA is now requiring and incentivizing a local overmatch for major projects; the City and MTA will be expected to bring more to the table and to look at alternative ways to capture value and involve the private sector. Included in the mix of new or increased local sources could be taxes or fees on existing property, new development, sales, motor fuels, transient occupancy, rental cars, and other sources that are equitably defined and combined so that the different beneficiaries of the improvements share in the cost to bring these projects into fruition.

The City and MTA will increase our efforts to practice proactive grantsmanship and to develop a programmatic financial strategy for pursuing federal discretionary grants and identifying additional local funds. This may include strategically pursuing smaller competitive federal grants such as Bus and Bus Facilities, securing state funding, looking at ways to capture the value of transit through the use of value capture mechanisms where applicable, and exploring the potential for delivery and/or financing partnerships with the private sector to transfer risk and improve cost and schedule certainty. This may also include coupling existing bonding authority with federal debt instruments such as Transportation Innovative Finance and Innovation Act (TIFIA) or Railroad Rehabilitation and Improvement Financing (RRIF) loans.

To develop a financial strategy for our proposed program, the City and MTA will begin with review of a comprehensive list of funding and financing options. Shown in the figure below, as a starting point, this list includes over 75 federal, state, local, and project-specific funding and financing options.

**Figure: Comprehensive List of Funding and Financing Options for Transit**

Federal	State	Local	Project-Specific
<ol style="list-style-type: none"> <li>1. FEMA Pre-Disaster Mitigation Grants</li> <li>2. FHWA Congestion Mitigation and Air Quality Improvement (CMAQ) Funds</li> <li>3. FHWA Surface Transportation Program (STP) Funds</li> <li>4. FHWA Transportation Alternatives</li> <li>5. FHWA Advanced Transportation and Congestion Management Technologies (ATCMTD) Program</li> <li>6. FTA Capital Investment Grant (CIG) Program</li> <li>7. FTA Section 5307/5340: Urbanized Area Formula Funding Programs</li> <li>8. FTA Section 5337: State of Good Repair Grant Program</li> <li>9. FTA Section 5310: Enhanced Mobility Seniors/Individuals with Disabilities</li> <li>10. FTA Bus and Bus Facilities Formula Program</li> <li>11. FTA Bus and Bus Facilities Grant Program</li> <li>12. FTA Low or No-Emissions (Low-No) Grant Program</li> <li>13. FTA Transit Oriented Development (TOD) Grants</li> <li>14. FTA Access and Mobility Partnerships Grants</li> <li>15. FTA Integrated Mobility and Innovation (IMI) Grants</li> <li>16. FTA Technical Assistance and Workforce Development Competitive Grant Program</li> <li>17. USDOT Better Utilizing Investments to Leverage Development (BUILD) Grant (formerly TIGER)</li> <li>18. USDOT Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan*</li> <li>19. Federal Railroad Administration (FRA) CRISI Grants</li> <li>20. Private Activity Bonds*</li> <li>21. FRA Railroad Rehabilitation and Improvement Financing (RRIF) Loan*</li> </ol>	<ol style="list-style-type: none"> <li>22. State General Fund Allocations</li> <li>23. Motor Vehicle Registration Fee</li> <li>24. Alternative Fuel Vehicle Fees</li> <li>25. Ride Hailing Fee</li> <li>26. Vehicle Miles Traveled Tax</li> <li>27. Vehicle Wheel Tax</li> <li>28. Rental Car Tax</li> <li>29. Motor Fuel Sales Tax</li> <li>30. Tolls</li> <li>31. Hotel/Motel Tax</li> <li>32. Lottery</li> <li>33. Casino Gaming Tax</li> <li>34. Liquor/Cigarette Tax</li> <li>35. Cap-and-Trade Proceeds</li> <li>36. Income/Payroll Tax</li> <li>37. Business Privilege Tax</li> <li>38. Title Ad Valorem Tax</li> <li>39. Entertainment/Meal Tax</li> <li>40. Real Estate Transfer Tax</li> <li>41. Estate Tax</li> <li>42. State Bonds*</li> </ol>	<ol style="list-style-type: none"> <li>43. Local Sales Tax</li> <li>44. Local Property Tax</li> <li>45. Local Motor Vehicle Registration Fee</li> <li>46. Local Alternative Fuel Vehicle Fee</li> <li>47. Local Ride Hailing Fee</li> <li>48. Local Vehicle Wheel Tax</li> <li>49. Local Rental Car Tax</li> <li>50. Local Motor Fuel Sales Tax</li> <li>51. Local Parking Tax</li> <li>52. Local Hotel/Motel Tax</li> <li>53. Local Utility Levy</li> <li>54. Congestion Pricing</li> <li>55. Local Income/Payroll Tax</li> <li>56. Local Business Privilege Tax</li> <li>57. Local Title Ad Valorem Tax</li> <li>58. Local Entertainment/Meal Tax</li> <li>59. Local Real Estate Transfer Tax</li> <li>60. Local Estate Tax</li> <li>61. General Obligation (GO) Bonds*</li> <li>62. Revenue Bonds*</li> </ol>	<ol style="list-style-type: none"> <li>63. Tax Increment Financing (TIF)*</li> <li>64. Special Assessment</li> <li>65. Business Improvement District (BID)</li> <li>66. Naming Rights</li> <li>67. Sponsorships</li> <li>68. Land Donations</li> <li>69. Joint Development</li> <li>70. Air Rights</li> <li>71. Development Impact Fees</li> <li>72. Private/Developer Contributions</li> <li>73. Private financing*</li> <li>74. Private equity*</li> <li>75. Fare Revenues</li> <li>76. Advertising Revenues</li> <li>77. Other Agency Revenues</li> </ol>

\* Denotes financing mechanisms

Source: InfraStrategies LLC

The City and MTA will screen this comprehensive list of options to identify the financial strategies that are most likely to support implementation and long-term sustained operations of the program. Each source will be evaluated using several criteria: availability and eligibility, revenue potential, revenue stream stability and predictability, nexus with beneficiaries, equity, legal and institutional barriers, administrative ease, and political support. The resulting short-list of funding and financing options will be used to develop several financial strategies to advance individual projects as well as the program as a whole.