

Beacon

TRAFFIC REDUCTION PROPOSAL

Proponents of the Let's Move Nashville light-rail plan argued that an alternative plan would likely take years to develop, with some even suggesting as high as another 10 years, making approving the plan imperative. Luckily, voters disagreed, knowing better alternatives existed. There are reforms and policies that policy makers should implement now that would make a real impact on congestion quickly and cost effectively, without necessitating raising taxes and requiring a public referendum:

METRO NASHVILLE ACTIONS



Build an adaptive traffic control system (ATCS) that enables traffic signals to immediately respond to traffic demand in real time.

Optimizing traffic signals is one of the most effective and cost-effective ways to combat congestion. Nashville's last countywide optimization project in 2016 reduced travel times by 14%. While, the Federal Highway Administration recommends recalibrating lights every 3-5 years, if there are significant changes in traffic volume, it recommends recalibrating even sooner. With constant rapid growth and Nashville's status as a tourist destination creating irregular traffic flows, an ATCS would provide continuous optimization benefits and manage dynamic traffic flow. Nashville should look to other cities that use this technology such as Los Angeles and New Jersey's Meadowlands and could pursue available federal grants to help offset the initial funding. In Los Angeles, this technology has proven to reduce travel time by as much as 12% and increase speeds by 16%. In other countries that have adopted this technology, such as in Riyadh, Saudi Arabia, travel times have decreased by as much as 30%. According to the Federal Highway Administration, "real-time management of traffic systems is proven to work, yet these systems have been deployed on less than 1% of existing traffic signals in the United States."



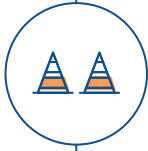
Eliminate government bans on private transportation companies' ability to compete and innovate, particularly shuttle companies.

Companies like Via Transportation, Inc., provide a new alternative between ridesharing and public transit by creating dynamic shuttle routes based upon user demand. However, Metro Nashville's regulations limiting private shuttle companies from transporting more than 15 passengers and mandating a license with a government pre-approved route before they can operate, effectively prohibits private companies like Via and others from creating innovative new services for Nashville commuters. Eliminating these regulations would empower private businesses to help solve Nashville's transit needs. Additionally, Nashville should resist the urge to regulate future companies seeking to bring various transit needs to the market. For example, the city's recent ban of and proposed regulations of battery-powered scooters have hampered the availability of first mile/last mile transportation options for Nashvillians and tourists.



Conduct a comprehensive review of existing bus routes, and outsource service to lower demand areas and routes to private ride-sharing companies.

In a time when Nashville is facing a \$34 million budget shortfall, city leaders must look for ways to provide services more efficiently. A comprehensive review of Metropolitan Transit Authority ridership on current bus routes and times would highlight opportunities for public-private partnerships offering subsidized on-demand ridesharing services for areas or routes that are not financially sustainable for permanent bus routes. Dallas's partnership with Uber to provide rideshare services to areas currently not served by its bus system, and the small town of Innisfil, Canada, both serve as examples of this in action. Innisfil outsourced all public transit to Uber, providing subsidized on-demand door-to-door transit within the entire town for an annual cost of \$500,000 versus \$8 million for permanent bus routes.



Enact reasonable time-based restrictions on right of way closures to lessen the effects of construction on traffic flow.

Like congestion, construction is a sign of economic growth. However, construction has a negative effect on traffic flow by creating less reliable travel times for commuters. Cities often charge fees for a business to close right of ways. However, Nashville's permit to close lanes or entire streets is one of the cheapest for similarly sized cities, costing only \$100 in the downtown area for up to five days and \$20 per day thereafter, and has little restrictions on time. Nashville should look to Indianapolis and Atlanta as examples, where in both cities work or lane closures are prohibited during morning and afternoon rush hours and permit fees increase per lane per day, incentivizing companies to minimize effects on traffic flow. Additionally, Metro government should seek to mitigate the negative effects on traffic from special events and concerts by better utilizing taxpayer funded venues like Ascend Amphitheater and First Tennessee Park. These facilities, and their surrounding area, are better designed to handle special events and we should not be burdening residents by closing down streets when these venues are unused.



Cease all corporate welfare handouts to companies seeking to relocate to Nashville, particularly the downtown Central Business District.

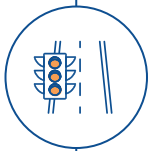
Road systems, like other public goods, suffer from a "tragedy of the commons" effect. Each time an additional commuter enters a congested highway, he or she imposes a cost to others through slower drive times. A company looking to relocate may consider Nashville's growing traffic and congestion as a quality of life "cost" of moving to our city compared to others. However, when the government provides taxpayer money to lure companies to Nashville, it subsidizes the cost of congestion (as well as more obvious direct costs) for this new company and imposes this negative externality on existing residents. Congestion is the unfortunate consequence of prosperity and social and economic vitality. Therefore, while it is better to deal with the effects of congestion than live in an area that has none, the government should not seek to increase this cost on its existing citizens through direct corporate handouts and tax abatements.



Create and encourage an alternative work solutions program for Metro Nashville employees and provide resources to private companies looking to create similar opportunities for employees.

As access to high-speed Internet increases and the economy continues to become more service-based, alternative workplace solutions (AWS), such as working remotely and flexible work schedules, have increasingly become a mainstay in the American workplace. While consistently listed as one of the favorite benefits of employees, AWS also adds societal value by shifting or removing commuters from rush hour. With over 9,000 employees, the Metro Nashville government is one of the largest employers in the city. If just 10% of Metro employees utilized AWS, it would remove nearly 1,000 cars from the roads daily. A robust AWS program could also save taxpayer money by reducing the need for Metro office space. Metro should spearhead an initiative in conjunction with the business community to strategically embrace teleworking as a traffic management solution. These initiatives could remove thousands of vehicles from our city's roadways. Metro government should also create a program to assist businesses looking to create their own AWS program. Santa Barbara County, in California, has consistently promoted telecommuting and flexible work schedules as part of its traffic management strategy. The city's FlexWork program, provided a one time grant for consulting services to help businesses create AWS programs. The FlexWork program removed an estimated 90,000 annual trips off highways in a county with just over half the population of Davidson County.

STATE GOVERNMENT ACTIONS



Install and manage ramp meter lights with a system-wide algorithm management system on freeway on-ramps.

Ramp meters are traffic signals placed on interstate on-ramps. According to the Federal Highway Administration, "ramp metering reduces overall freeway congestion by managing the amount of traffic entering the freeway and by breaking up platoons that make it difficult to merge onto the freeway." In the most expansive study on ramp metering, in 2001 the Minnesota Department of Transportation turned off existing ramp meters on a small sample of interstates in the Twin Cities area. When ramp meters were turned off, road capacity decreased by 14%, travel speeds decreased by 22%, accidents increased by 26%, and travel time reliability fell by 91%. While it is true ramp metering increases commuter wait time on merging ramps, the reduction in travel time on highways more than compensates. A system-wide management algorithm would adapt timings to traffic conditions to most effectively reduce bottlenecking by managing a corridor of ramps simultaneously. Additionally, ramp metering is an extremely cost-effective solution. The same study found that ramp metering resulted in a conservative net benefit of \$32-\$37 million per year. Ramp metering was already recommended in the Metro Planning Organization's 2007 *Southeast Corridor High-Performance Transit Alternatives Study* for the majority of I-24, but was never implemented.



Divert through freight travel to I-840.

The Nashville Area Metro Planning Organization's 2016 *Regional Freight and Goods Movement Study* estimated that approximately two-thirds of current truck travel is through freight, where the Nashville region is neither the origin nor destination. While state law does allow trucks to be restricted to certain lanes, these restrictions may only be done on interstate and multilane divided highways that are three or more lanes



wide in each direction). This eliminates large segments of the inner loop of downtown Nashville for practical reasons due to the number of lanes and crossing traffic flows such as the I-24 and I-40 westbound merge and split in southeast Nashville. However, other lane management opportunities still exist by diverting through freight travel to I-840 where possible. This will divert large portions of through freight traffic from the downtown area with a maximum mileage increase of 21 miles. One example of this practice is Atlanta, where freight trucks whose destination is not inside the I-285 perimeter must utilize the I-285 bypass. Similarly to the right of way closures, restrictions could be limited to peak travel times like 7:00-9:00 a.m. and 4:00-7:00 p.m.

Create HOT lanes by converting HOV lanes or expanding roadways where possible through public-private partnerships.

Congestion pricing has only been used on a limited basis in the U.S., with the first usage in southern California in the mid 1990s. However, their popularity has grown, with High Occupancy Toll (HOT) lanes being implemented in cities like San Diego, Miami, Atlanta, Minneapolis, Seattle, and northern Virginia in recent years. HOT lanes improve travel times in both the managed lanes and general-purpose lanes. For example, I-95 in Miami saw average travel speeds increase 155% in the HOT lane and 75% in the general-purpose lanes from 2008 to 2011. HOT lanes also create additional revenue for ongoing maintenance and operations and can be an effective tool to incentivize citizens to utilize transit service such as in Atlanta, where Xpress bus service increased 21% in morning rush hour and 17% in afternoon rush hour. To mitigate costs, the Tennessee Department of Transportation should look to implement HOT lanes in conjunction with the private sector through public-private partnerships.