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BEYOND REPAIR?
America's Infrastructure Crisis Is Local

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EXECUTIVE SUMMARY

America's infrastructure discussions are dominated by debates about federal funding. But large portions of America's roads and streets are under the jurisdiction of local governments. These locally owned roads are mostly ineligible for federal funding. So any increased federal funding of highways would have only a limited effect on the condition of local streets.

Unlike the federal and state governments, which draw heavily on dedicated road-user fees such as gas taxes, local governments rely far more on general funding for streets. In an era of fiscal constraint, this has left many local governments, urban and rural, struggling to address street- and bridge-maintenance backlogs.

Because of the limited federal role in local roads, state and local governments need to develop policies to respond to the infrastructure investment gap. These could include a "fix it first" policy of not building new or expanded roads; requiring new housing developments to retain responsibility for interior street maintenance; and increasing state gas taxes, with enhanced revenue sharing with local governments. Regardless of the policy chosen, it will ultimately require state and local, not federal, action to significantly improve the condition of America's local roads and streets.

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I. INTRODUCTION

The fate of the federal Highway Trust Fund (HTF) dominates America's infrastructure debate. The HTF is the main federal-financing vehicle for both highways and transit, and it contains the proceeds from the federal tax on gasoline (18.4 cents per gallon) and diesel fuel (24.4 cents per gallon).[1] Federal transportation spending has exceeded gas-tax revenues for several years, with the result that the HTF has been kept solvent only by a series of transfers—$62 billion since 2008—from the general fund.[2] The Congressional Budget Office projects that if nothing is changed, a further $168 billion in deficits will be accumulated by the HTF through 2025.[3]

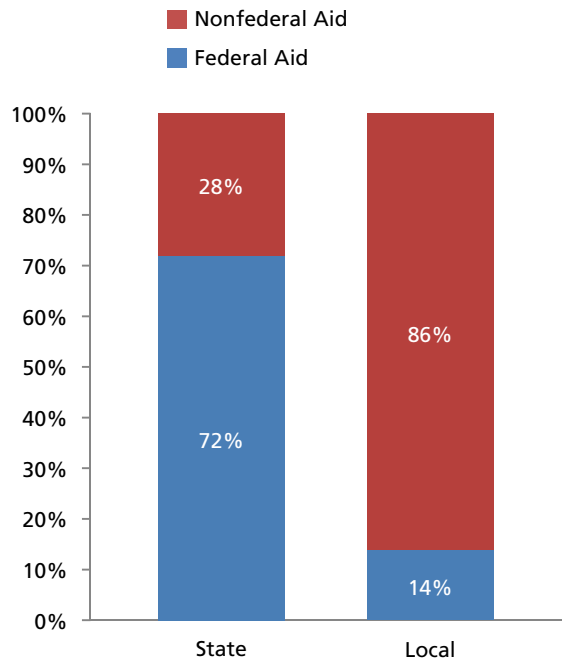
This has produced a flurry of rhetoric about the danger to America's infrastructure, which is often portrayed as troubled. For example, the American Society of Civil Engineers gives U.S. roads a letter grade of D.[4] CBS's *60 Minutes* ran a segment on infrastructure called "Falling Apart."[5] The federal gasoline tax has not been raised since 1993, and many on both the left and the right see raising the gas tax as an easy way to address the HTF shortfall, including the *Washington Post*'s Wonkblog ("Now would be a good time to raise it"),[6] the U.S. Chamber of Commerce ("the simplest, most straight-forward, and most effective way to generate enough revenue"),[7] and the *New York Times*'s editorial board ("a small price to pay for better roads, bridges and transit systems").[8]

What such arguments miss is that the HTF accounts for only about a quarter of America's total government-transportation spending.[9] Additionally, a significant portion of America's infrastructure challenge is in local roads and streets, which are largely not addressable by the HTF. Many local governments have struggled to maintain their crumbling highways and streets, especially in an era of fiscal constraint. Because these roadways are predominantly paid for by local taxes and are largely ineligible for federal funding, raising the federal gas tax or other strategies to put the HTF on a solid financial footing will not make a major dent in this problem. State and local governments must act on their own to address it.

While states own a large portion of highly traveled roads, such as interstate highways, local governments are responsible for the majority of roadway mileage. Counties and municipalities, including minor civil divisions such as townships, are responsible for 3.1 million miles of roads and streets. Only 430,000 miles (14 percent) of these are part of the federal aid system. The remaining 2.7 million (86 percent) are nonfederal aid. By contrast, 72 percent of the 780,000 miles of state-owned roads are in the federal aid system (**Figure 1**).[10]

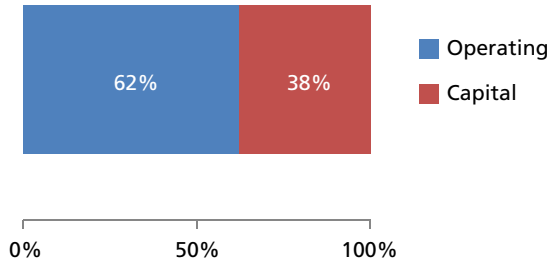
This makes intuitive sense because major roads, such as interstate highways and routes on the National Highway System, which are the focus of federal spending, are largely under state ownership. As the

Figure I. Federal Aid vs. Nonfederal Aid Mileage



Source: Author's analysis of FHWA Highway Statistics 2013, table HM-14

Figure 2. Local Government Spending on Roads, Operating vs. Capital Expense



Source: Census of Governments annual survey of state and local finances, 2012

Federal Highway Administration (FHWA) puts it: "Local public agencies administer the largest percentage of roads. Since the majority of these roads serve as property access routes and carry very low traffic volumes, most locally administered roads are functionally classified as local roads which are generally ineligible for Federal-aid funding."[11]

Whether a road is on the federal aid system does not, strictly speaking, determine eligibility for federal funding but is instead a rough guide to which roads receive such funds. According to the Census Bureau's annual survey of state and local finances, local governments spent $61 billion on roads in 2012 (**Figure 2**): $38 billion (62 percent) on operations; and $23 billion (38 percent) on capital.[12]

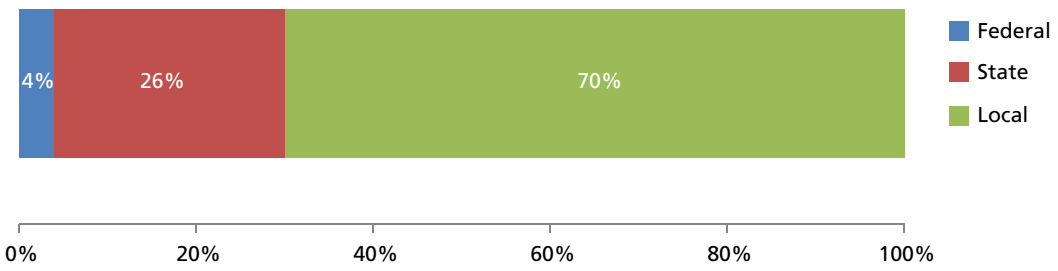
Of the $61 billion in local spending on roads, only $2 billion (3.7 percent) came from federal aid. If federal funding is applied only to capital spending, it is still only 9.7 percent of the total. State governments provided another $16 billion in aid (26 percent of the local spending total).

The form of aid varies by state. In Illinois, 54.4 percent of net gas-tax receipts are allocated by law to localities.[13] Indiana sends money to localities in a variety of ways, including allocating 47 percent of the state's Motor Vehicle Highway Fund (itself funded by 75 percent of the state's fuel taxes) to localities, mostly counties.[14] But apart from federal and state aid, local governments invested $43 billion in locally sourced funds into streets, or about 70 percent of their total spending on roads (**Figure 3**).[15]

Local governments use different sources of funds from federal and state governments, too. Federal and state governments collect substantial funds from user-roadway fees, such as gas tax and motor-vehicle fees. By contrast, in raising their own share of road budgets, local governments are highly reliant on general-fund and property-tax revenues.

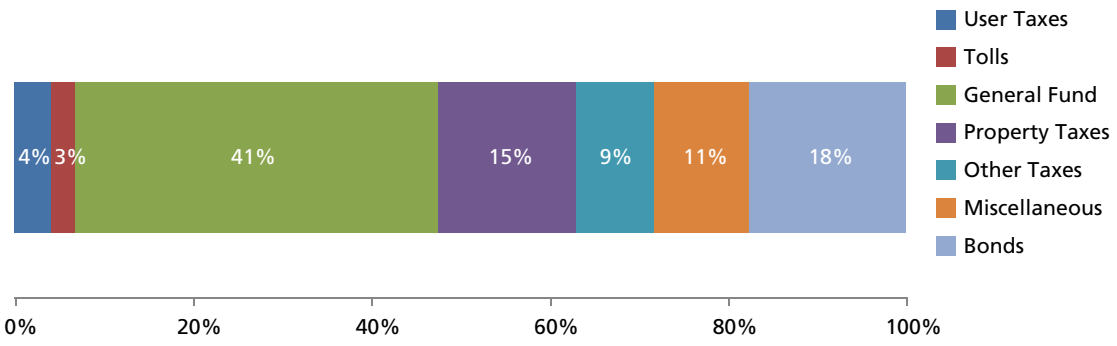
In a separate survey, the FHWA calculates locally sourced revenue for roads at $66 billion and breaks down the origin of funds by category. Unlike federal and state governments, local governments raise only a small share of road funding from tolls and other user

Figure 3. Local Government Spending on Roads, by Funding Source



Source: Author's analysis of Census of Governments annual survey of state and local finances, 2012

Figure 4. Local Government Roadway Funding Sources



Source: FHWA Highway Statistics 2013, table LGF-1; local source only—state and federal aid excluded

fees. Instead, property taxes (15 percent) and general-fund revenues (41 percent) account for a majority of spending. Borrowing (18 percent), which usually must be repaid from similar general revenue sources, accounts for another sizable share (**Figure 4**).[16]

In short, the majority of America's roadway mileage is owned by local governments, which receive relatively little federal aid to pay for them and are instead dependent largely on general-fund revenues (or a property tax, which utilizes the same tax base as most other local spending). This reality has two important implications:

1. Changes to the HTF, including strategies such as raising the federal gas tax, will have a limited effect on local road conditions.
2. Local spending on roads is subject to crowd-out by other spending that utilizes the same funding sources.

II. THE LOCAL INFRASTRUCTURE FUNDING CHALLENGE

On an inflation-adjusted basis, local spending on U.S. roads and streets had been trending slightly upward, but reversed course during the Great Recession. Real local roadway capital spending is now at its lowest levels since 1996 (**Figure 5**).[17]

The relative stability of local spending over this period raises the question of whether local roads are, in fact, underfunded. There is no standardized, centralized repository of local street conditions and maintenance needs for America as a whole. But many local governments have compiled needs assessments, sometimes including items other than streets, which have often received significant local media coverage. Examples include Atlanta's 2013 figure of $922 million in infrastructure needs,[18] Seattle's 2010 estimate of $1.8 billion,[19] $1 billion in Portland,[20] and $5.1 billion in Los Angeles.[21]

These figures are complemented by numerous anecdotes and media reports. A Chicago website states: "The Western Avenue Viaduct Is Crumbling Before Our Eyes"[22] while a chunk of concrete falling from another bridge smashed a woman's windshield in suburban Park Ridge.[23] In autumn 2014, Chicago newspaper columnist Greg Hinz wrote: "Mayor Rahm Emanuel and his streets crews just haven't done the job fixing up the thoroughfares from last winter even as another winter draws agonizingly close.… In the warm months, I usually bike to work, and I have to say it's been a real experience this year. Chuckholes everywhere, and I do mean everywhere."[24]

The same is true in many cities, especially in cold-weather regions. In Toledo, Ohio, facing its

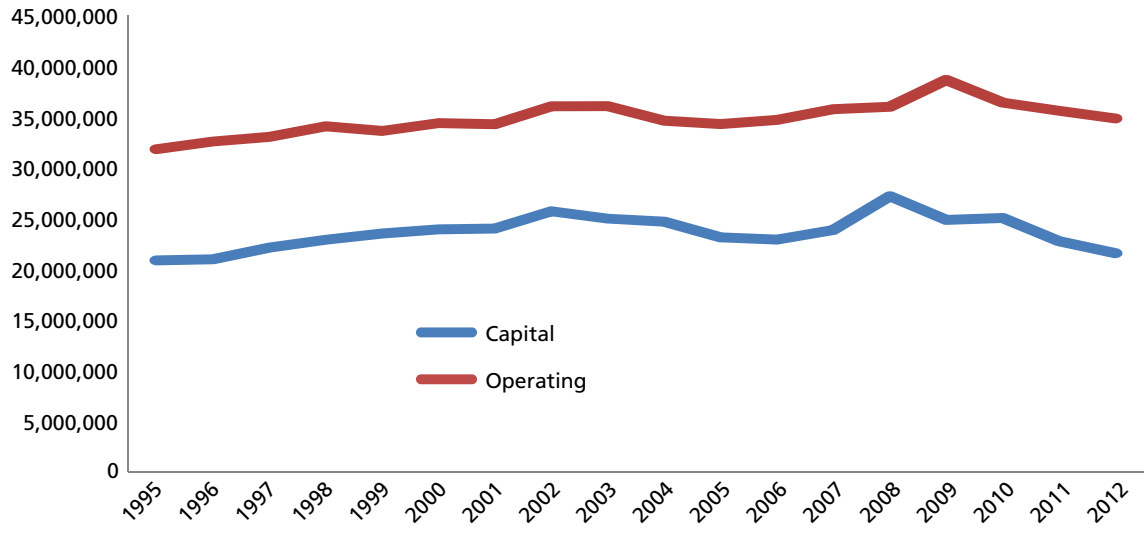
own $1.9 billion repair backlog, local resident Bob Wurst told the *Toledo Blade*, "It's like you're on a roller-coaster ride.… I hear things rattling in my own car that I never heard before."[25] Toledo's commissioner of engineering services notes: "Money is a large driving factor.… There's no federal or state money given for residential projects." Los Angeles media outlet *LA Weekly* observes: "If you think our streets are crumbling before our very eyes, you're not alone."[26] CBS Dallas reports: "Dallas residents consistently rank streets as one of the biggest problems in the city. It's no surprise considering 1 in 4 streets in Dallas are deemed deficient."[27] St. Paul's mayor described "lunar-like conditions across our city streets."[28]

These reports suggest that local governments may have been underfunding local street maintenance for some time, thus accumulating significant street-repair backlogs; and that they are not spending enough to prevent further deterioration, much less make a material dent in the backlog. This affects not only major cities but suburbs, small towns, and rural areas. In South Dakota, Iowa, and Michigan, for example, rural counties are turning paved roads back into gravel because they cannot afford to maintain them as paved roads.[29]

The effect of underfunding is magnified by the way it increases the cost to repair roads over time. Pavement conditions and restoration costs do not decline linearly over time. By forgoing regular maintenance, localities significantly raise their long-term costs. For instance, San Jose, California, in an audit of its street conditions, noted: "It is three to four times more expensive to restore pavement with a PCI [pavement condition index] of 49 than 69."[30] Similarly, Rhode Island was forced to pay $167 million to replace its Sakonnet River Bridge because it had failed to maintain the previous one.[31]

The following two case studies illustrate the challenges that localities are facing in paying for local roadway infrastructure.

Figure 5. Inflation-Adjusted Local Roadway Spending (2009 USD, Billions)



Source: Author's analysis of Census of Governments annual survey of state and local finances and Bureau of Economic Analysis (BEA) Price Indexes, for government consumption expenditures and gross investment

Indianapolis, Indiana (pop. 848,788)[32]
According to Andy Lutz, chief engineer of Indianapolis's Department of Public Works, the city has a backlog of street-repair needs of roughly $1 billion. Just to maintain current conditions without further degradation, Indianapolis would need to spend about $120 million annually. But it is only spending $40 million per year from the city's regular budget, plus another $10 million–$25 million per year in federal aid.[33] This means that, in a good year, Indianapolis only spends about half of what it needs to prevent its streets from getting worse. As a result, its repairs backlog continues to grow year by year.

Indianapolis has attempted to address this through a variety of special revenue-raising techniques. Current mayor Greg Ballard sold the city's water utility to a local charitable trust that already owned the local gas company. He leased the city's parking-meter system to a private vendor. These and other revenue-raising activities funded Rebuild Indy, an infrastructure program. According to Lutz, approximately $600 million was spent as part of this program, which resulted in a net reduction in the city's backlog of needs of about $400 million (the other $200 million made up only for the deficit in normal annual spending, simply to prevent further degradation).

This program was financed with one-time funds; it still leaves Indianapolis with its current $1 billion backlog and a significant gap in its annual street budget. A creative solution to the city's infrastructure challenge, Rebuild Indy did not address Indianapolis's long-term structural deficit in local street spending. With the majority of city spending devoted to public safety and other critical needs, any redirection of funds would require offsetting reductions in other core city services.

Sonoma County, California (pop. 500,292)
North of San Francisco, Sonoma County has a median household income of $61,029, slightly higher than the California average. Yet its roadway conditions are among the worst in the state.[34] It faces a backlog of nearly $1 billion in road-repair needs, too.

The Manhattan Institute's Stephen Eide found significant evidence that Sonoma County's roadway-funding issues are related to crowd-out from retirement-related liabilities. He notes that while the county would need to spend $50 million annually over two decades to upgrade its roads to good or better condition, its pension contribution alone has increased by more than $40 million per year in the last decade. This spending level, invested in roads, would have covered 80 percent of the funding stream necessary to repair the county's roads.

In an attempt to reduce its roadway-funding deficit, Sonoma County placed a 0.25 percent sales-tax increase on the ballot—a proposal that was defeated (63 percent to 37 percent) in a June 2015 referendum.[35]

What Indianapolis and Sonoma County illustrate is that many localities have a structural deficit in roadway spending. They are responsible for more roads than they have financial resources to maintain. This was true even before the Great Recession induced a downtrend in real-capital spending. Because of the use of general and property-tax revenues as a funding source, roadway maintenance often loses out to items such as pensions and public safety.

III. POLICY IMPLICATIONS FOR STATE AND LOCAL GOVERNMENT

States and localities have traditionally pressed for federal HTF solutions to local transportation infrastructure challenges. At a March 2015 U.S. Conference of Mayors meeting, attendees urged the federal government to act, issuing a press release that stated: "Specifically, the mayors are calling for increased resources to the [federal transportation] program, with more locally-directed funding to address the growing needs in cities where populations are steadily rising."[36]

At the meeting, New York mayor Bill de Blasio declared: "The failure to invest in transportation, the failure to invest in infrastructure, is holding us back.… We all know what's happening to our streets. We know that we have bridges that are in real distress."[37] De Blasio coauthored a *New York Times* op-ed with Republican mayor Mick Cornett of Oklahoma City that stated: "We urge both parties [in Congress] to make a deal that will prevent our cities from becoming casualties of gridlock and impasse."[38]

Local concern about federal funding may be more relevant for transit, where the federal role in capital finance of local projects is greater. But for local roads and bridges, as discussed, even a significant increase in federal funding will not materially address local road conditions. Instead of lobbying for more federal spending, mayors and other local and state officials should undertake a different approach, based on three priorities:

1. Take ownership of local road needs at the local and state levels.
2. Understand the reality of the challenge, and create a policy framework that responds to it.
3. Undertake specific actions aligned with the framework to address local roadway conditions.

Taking Ownership

In the 1990s, mayors such as Milwaukee's John Norquist led the way in rejecting what he termed "tin-cup urbanism,"[39] or the posture of reliance on Washington for solutions and funding to local challenges. Local leaders need to adopt that mind-set again when it comes to road and street infrastructure. Even were a significantly increased federal response to local roads desirable, it simply is not realistic. As Bruce Katz and Jennifer Bradley of the Brookings Institution observe, "Cities and metropolitan areas are on their own. The [federal] cavalry is not coming."[40]

Because cities are creatures of state government and state law governs their transportation-finance structure, state officials have a role to play. Nevertheless, local and state officials need to understand that the problem is theirs to solve, not the federal government's.

Creating a Policy Framework

The policy responses to the local roadway challenge will be as diverse as the United States, but two important prerequisites will be shared.

The first is to understand the scope of the problem. There is generally good information about America's bridges. Because of the potential for catastrophe if bridges fail, they are inspected regularly. Statistics on their condition are available, including whether they are structurally deficient or functionally obsolete. This is, in fact, a product of federal transportation legislation, which created the National Bridge Inventory[41] and National Bridge Inspection Standards.[42]

One useful role that the federal government could play is to create and finance a similar database, with standards that would provide information about local roads and streets. This would allow local street conditions to be understood and compared nationally, based on a recognized set of standards. State governments should not wait for such action but should produce an inventory, as well as a conditions report for roads controlled by their localities—one that enables a determination of needs to be made without recourse to a bespoke study. Documenting the condition of local roads needs to be an ongoing, regular process.

The creation of a regularly updated, street-condition inventory could be facilitated by the use of new technology. Boston, for example, created an app, Street Bump, that uses mobile phones to automatically detect potholes. Armed with solid information about local roadway needs, state and local governments need to develop a serious, realistic policy response.

The second prerequisite is to publicly acknowledge the scope of the problem. It may well be that there are insufficient funds to maintain local roads

at high service levels. This may require painful choices, such as that of counties returning paved rural roads to gravel.

Often, being honest with the public about an inability to properly fund roads can result in politically challenging but needed actions. Mitch Daniels, upon being elected governor of Indiana, told the public that the Indiana Department of Transportation had long been promising communities pie-in-the-sky road projects. He unveiled a new, fiscally constrained list of projects that did not include many previously promised projects. This produced the political demand for a solution. Daniels then creatively leased the Indiana Toll Road to a private consortium for $3.9 billion in cash and promised improvements.[43] The proceeds were used to finance a major road-building program, Major Moves.

Indiana is, of course, a state, not a local, government. Because local governments operate under more constraints, a similar solution that finds more money may not be readily available. But by presenting the facts to the public, localities and their states can help citizens understand and make informed choices about the best way to address their roadway infrastructure challenges.

IV. CONCLUSION

While conditions and policy responses will vary by place, localities would do well to consider adopting the following eight policies:

1. Maintain general fiscal discipline. Since local-source road funding largely comes from general funds and property taxes, overspending in one area, such as employee pensions, can easily result in road funding being crowded out. It is easier to let streets crumble than to avoid paying employees and bondholders—at least in the short term.

2. Stop expanding capacity. Too often, localities that cannot pay to maintain current roads spend what money they do have on building new roads or widening existing ones. In the long run, this only adds to the inventory of infrastructure that can't be maintained. Federal and state funding for projects, which can seem like "free money," encourage this. Localities should adopt a "fix it first" policy—a principle endorsed even by President Obama[44]—that focuses on maintaining what governments already have, rather than building more.

3. Stop accepting new streets. In new residential developments, local governments often take ownership and maintenance responsibility for streets after the developer builds them initially. To the extent permitted by law, localities should instead consider a policy that requires homeowner associations to retain ownership and maintenance responsibility when new subdivisions are built. Subdivision streets exist for the benefit of the properties that they allow access to; such property owners should be responsible for maintenance. Some housing developments and localities already function this way.

4. Devolve responsibility to property owners. One step beyond refusing to accept new streets into the local government's inventory is relinquishing existing streets to homeowner associations. Long Grove, Illinois, near Chicago, made headlines for a proposal to do this.[45] The town planned to make street maintenance the responsibility of homeowner associations, or to establish so-called special-service areas with a special street-maintenance tax. While a final policy for maintaining village streets has yet to be adopted, this is a good example of the type of discussions that need to happen.[46]

5. Implement roadway pricing (tolls). The principle of making beneficiaries pay for the roads that serve them could be extended to tolling in some locations. This could even include variable demand-based pricing in a system known as "congestion pricing," which has been very successful in cities where it has been implemented. Tolls can operate to raise revenue and to reduce congestion in tandem. London

and Singapore use congestion pricing on select roads. New York City has proposed implementing congestion pricing and tolls on East River bridges. Doing so, however, would require approval from the state legislature, which has thus far not been forthcoming. The Indiana example, which involved a politically unpopular hike in toll rates, demonstrates that the public can be sold on this approach.

6. Special funding referendums. Where permitted, local governments could allow voters to decide to impose a temporary special tax to finance road improvements. Oklahoma City has successfully done this through a series of voter-approved initiatives known as "MAPS" (metropolitan area projects). The current MAPS-3 program[47] imposes a supplemental sales tax of 1 percent for ten years to finance a series of specific capital improvements. This is not limited to transportation but does include a downtown streetcar system and a series of sidewalk improvements. All projects are being constructed on a pay-as-you-go basis and so result in no additional municipal debt.

7. Issue bonds. Another alternative is to issue bonds to pay for road upgrades. One advantage of borrowing is that debt service sits at the top of the payment stack. By using general revenue-backed debt to finance infrastructure, the crowding-out problem is avoided, at least for roads. While debt can be appropriate, it can also be misused. Projects financed by debt should have a useful life that extends at least to the debt repayment date. This means that debt should not be used for routine maintenance activities. Also, debt should not be used to paper over a structural deficit in annual spending on roads and streets. However, bonding may be useful for "catch-up" spending to finance a major capital refresh program, provided that the tax base adequately supports it and that the ongoing maintenance spending gap is addressed.

8. Increase state fuel taxes. In some cases, state and local governments may decide that there should be more user funding of roads, via increased gas taxes. In this case, an increase in the state gas tax, with distribution to localities, would be preferred. Locally imposed gas taxes create many more market distortions because of the small geographic scope of many local governments—allowing for relative ease in crossing borders in search of lower taxes, compared with a state-level tax. Local gas taxes may even create perverse incentives, such as encouraging localities to subsidize gas stations.

Regardless of the specific policies adopted, state and local governments need to ask tough questions and make difficult decisions about what roadways they can afford to maintain, at what service level, and how to pay for them. Because of the limited impact of the federal HTF on local street conditions, apart from this type of reckoning, the status quo of neglect and slow deterioration will be a policy choice made by default.

ENDNOTES

1. See http://www.eia.gov/tools/faqs/faq.cfm?id=10&t=10.
2. See http://www.heritage.org/research/reports/2015/05/highway-trust-fund-basics-a-primer-on-federal-surface-transportation-spending.
3. See http://www.cbo.gov/sites/default/files/cbofiles/attachments/43884-2015-03-HighwayTrustFund.pdf.
4. See http://www.infrastructurereportcard.org/a/#p/roads/overview.
5. See http://www.cbsnews.com/news/falling-apart-america-neglected-infrastructure-60-minutes.
6. See http://www.washingtonpost.com/blogs/wonkblog/wp/2014/12/03/why-now-would-be-a-very-good-time-to-raise-the-gas-tax.
7. See https://www.uschamber.com/blog/its-time-raise-federal-gas-tax.
8. See http://www.nytimes.com/2015/01/11/opinion/sunday/raise-the-gas-tax-to-fix-americas-roads.html.
9. See http://www.pewtrusts.org/en/research-and-analysis/analysis/2015/02/24/funding-challenges-in-highway-and-transit-a-federal-state-local-analysis.
10. "Highway Statistics 2013," Federal Highway Administration (FHWA), table HM-14, sheet 3, http://www.fhwa.dot.gov/policyinformation/statistics/2013/hm14.cfm.
11. "Contract Administration Core Curriculum Manual," FHWA, October 2014, http://www.fhwa.dot.gov/programadmin/contracts/cacc.pdf.
12. Census of Governments annual survey of state and local finances, 2012, http://www.census.gov/govs/local. "Capital" is defined as construction, as well as purchase or capital leasing of land, structures, and equipment. "Operations" are other expenses, such as employee salaries, snow removal, etc. Street cleaning, which is classified as solid waste management, is excluded. See survey form, http://www2.census.gov/govs/forms/2014/f28_2014.pdf.
13. Illinois Motor Fuel Tax Law. 35 ILCS 505, http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=610&ChapterID=8.
14. Association of Indiana Counties, Indiana Road Funding Effort presentation, http://www.naco.org/about/leadership/nccae/Documents/Indiana-Road-Funding-Summary_NACo2014.pdf.
15. Census of Governments annual survey of state and local finances, 2012, http://www.census.gov/govs/local. Locally sourced revenues are calculated as the remainder of local spending minus federal and state aid.
16. Author analysis of table LGF-1 in the FHWA's Highway Statistics 2012.
17. Analysis using BEA table 3.9.4, line 34 (consumption expenditures) for operating spending; and line 36 (structures) for capital spending.
18. See http://www.ajc.com/news/news/local/atlanta-increases-cash-reserves-to-127-million/nTpsZ.
19. See http://seattletransitblog.com/2013/01/21/seattles-terrifying-maintenance-backlog.
20. See http://www.oregonlive.com/portland/index.ssf/2015/01/why_portlands_roads_are_so_bad.html.
21. See http://www.nytimes.com/2014/09/02/us/pipes-roads-and-walks-crack-as-los-angeles-defers-repairs.html.
22. See http://chicago.curbed.com/archives/2014/12/04/chunks-are-falling-off-western-ave-viaduct-due-for-replacement.php.
23. See http://www.myfoxchicago.com/story/24834086/park-ridge-woman-victim-to-crumbling-bridge-infrastructure.
24. See http://www.chicagobusiness.com/article/20140925/BLOGS02/140929882/pothole-city-emanuel-needs-to-do-a-better-job.
25. See http://www.toledoblade.com/local/2015/06/21/Residents-fume-as-streetscrumble-around-Toledo.html.
26. See http://www.laweekly.com/news/la-california-streets-crumbling-will-need-billions-to-fix-report-says-4173055.
27. See http://dfw.cbslocal.com/2015/04/15/dallas-city-leaders-discuss-pothole-problems.
28. See http://www.stpaul.gov/index.aspx?nid=5506.
29. See http://www.startribune.com/making-a-rural-comeback-the-old-gravel-road/118713504.
30. See http://www.slideshare.net/MinhDanVuong/audit-of-street-pavement-maintenance?ref.
31. See http://www.jamestownpress.com/news/2014-02-06/News/West_Bay_rep_Fund_transportation_with_DMV_revenue.html.

32. Population estimates from the Census Bureau's Population Estimates Program, Vintage 2014. Indianapolis is a merged city-county government. Certain municipalities within its county (Marion County) were excluded from the merger; but through its county functions, the city of Indianapolis remains responsible for certain county streets and bridges. The total county population is 934,243.
33. The city of Indianapolis is responsible for many arterial streets and bridges that are eligible for federal funding. The state of Indiana has relinquished a significant number of former state highways to the city government.
34. Stephen D. Eide, "California Crowd-Out: How Rising Retirement Benefit Costs Threaten Municipal Services," Manhattan Institute for Policy Research, Civic Report no. 98 (April 2015), http://www.manhattan-institute.org/html/cr_98.htm.
35. See http://www.sonomanews.com/home/4016935-181/sonoma-county-voters-reject-measure. Revenue from the proposal, though touted for road-construction relief, would not have been dedicated legally for that purpose, a fact cited by some who opposed it.
36. See http://usmayors.org/pressreleases/uploads/2015/0323-release-coomeeting.pdf.
37. See http://www.nydailynews.com/news/politics/de-blasio-mayors-slam-transportation-funding-cuts-article-1.2159742.
38. See http://www.nytimes.com/2015/05/13/opinion/let-our-cities-move.html?_r=0.
39. See http://www.city-journal.org/2010/20_4_urban-reform.html.
40. Bruce Katz and Jennifer Bradley, *The Metropolitan Revolution* (Washington, D.C.: Brookings Institution Press, 2013).
41. See http://www.fhwa.dot.gov/bridge/nbi.cfm.
42. See http://www.fhwa.dot.gov/bridge/nbis.
43. See http://www.governing.com/topics/mgmt/indiana-toll-road-model-privatization.html. The private lessee of the Indiana Toll Road subsequently filed bankruptcy. This may have been a problem for the lessee but not for the state of Indiana, which received its cash up front and which retained the right to reclaim the road if any private operator failed to live up to the performance standards in the lease contract.
44. See https://www.whitehouse.gov/the-press-office/2013/02/20/fact-sheet-president-s-plan-make-america-magnet-jobs-investing-infrastru.
45. See http://articles.chicagotribune.com/2013-12-13/news/ct-long-grove-roads-update-met-20131213_1_roads-village-board-long-grove.
46. Policies 3 and 4 above may face legal obstacles in certain locales. State legislative action may be required to enable them.
47. See http://www.okc.gov/maps3.