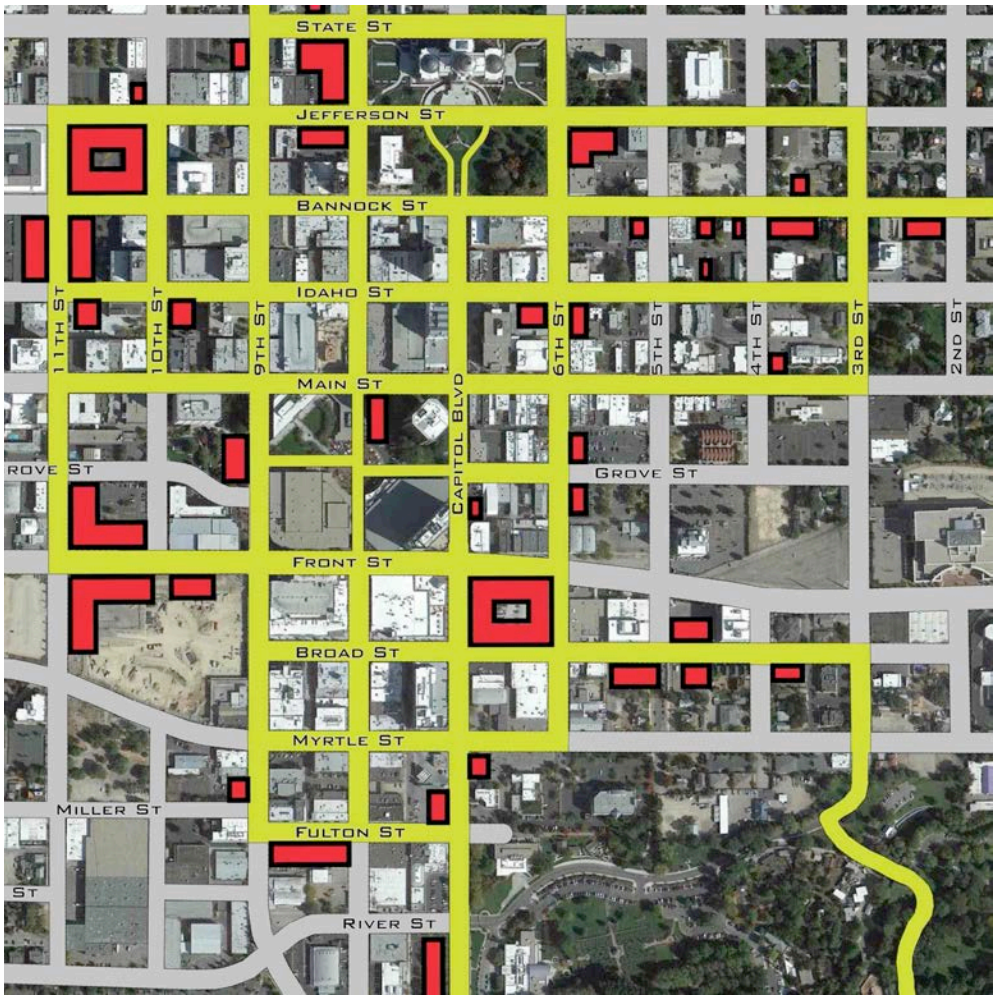
# BOISE, IDAHO
# DOWNTOWN WALKABILITY ANALYSIS

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OVERVIEW

## Approach

By applying a design strategy centered on walkability, this study asserts and attempts to demonstrate how a limited number of relatively small planning interventions can exert a profound influence on the livability and vitality of downtown Boise.

The study area for this exercise is principally the heart of the downtown, bounded by Boise High School to the north, Boise State University to the south, Saint Luke's Hospital to the east, and 16th Street to the west. Conditions beyond these borders are considered in this report's recommendations, but all recommendations are limited to this area, with the exception of street re-striping proposals for Warm Springs Avenue, West Main Street, West Fairview Avenue, and the 30th Street corridor.

This document begins with a discussion of the four components of walkability, describing how most people will only make the choice to walk if that walk simultaneously useful, safe, comfortable, and interesting. Those four criteria are then used as a basis for the recommendations that follow.

These recommendations are organized into three sections. The first section, General Recommendations addresses the street network—specifically its one-way pairs—the bicycle network, and the location of the transit hub.

The next section, Street Redesign, establishes a strategy for building streets within the downtown, and then demonstrates how that strategy could be used to improve almost every downtown street. In most cases, suggested street improvements make use of restriping rather than reconstruction in order to conserve funds.

The final section, Setting Priorities, applies an "urban triage" methodology to determine where walkability is achievable in the short run and integrates these findings with an analysis of important anchors and paths in order to designate a Primary Network of Walkability in the downtown. This Network indicates where the fewest investments in infrastructure are likely to have the greatest impact on people's choice to walk. This Network is then used as a means to prioritize both the recommended street improvements and the redevelopment of adjacent properties. Finally, a strategy is suggested for allowing underutilized parking structures to leverage the construction of new downtown housing.

The report concludes with Next Steps, highlighting the few short-term physical interventions that can be expected to have the most immediate impacts on the walkability and vitality of downtown Boise.



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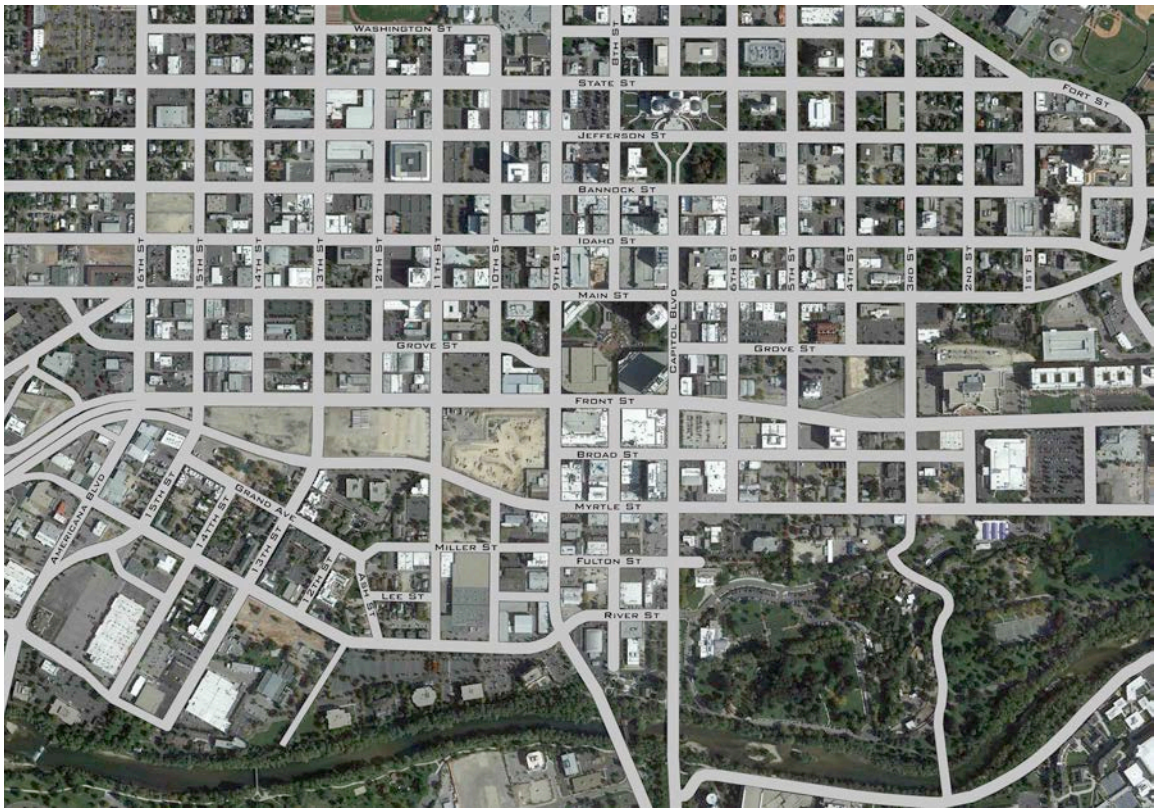
**The Purpose of This Document**

This is a downtown walkability analysis, not a downtown master plan. It is not comprehensive, and does not try to be visionary. But, like a master plan, it hopes to have a profoundly positive impact on the physical form, economic success, and social vitality of the city. Specifically, this report, and the effort that led to it, it asked this question: *What changes can be made, in the least time, and for the least cost, that will have the largest measurable impact on the amount of walking and biking downtown?*



*The study area, appropriately, is the heart of downtown, bounded by Boise High School, Boise State University, St. Luke's Hospital, and West 16th Street.*

Currently, downtown Boise is considerably more walkable than the typical mid-sized American city center. Most of it, however, still lacks the lively around-the clock vitality that can be found in those downtowns that are known for their walkability, like Portland and Boulder, cites with a more favorable jobs/housing balance and considerably safer-feeling streets. The amount of downtown cycling in downtown Boise is also relatively small considering the tremendous population of recreational bikers living nearby, although, again, this circumstance is not surprising in light of the limited amount of cycle facilities present and the high-speed geometrics of many downtown streets.

There has been a fair amount of discussion lately about reforming the conditions that have led to this status—about dramatically increasing the amount of housing downtown, calming traffic, and improving cycling infrastructure in a way that will allow Boise to



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offer a quality of street life that competes with the region's most livable cities. This report hopes to unify that conversation into a single catalyzing document. For this reason, its recommendations are not vague. It will become clear very quickly whether or not they are being implemented. They are presented with a confidence that the community's leadership understands the value of walkability, and embraces it as a path to creating to a more robust, resilient, and rich city.



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## PROLOGUE

The section that follows is a synopsis of the first three chapters of the book *Walkable City: How Downtown Can Save America, One Step at a Time*, (Jeff Speck, NY: Farrar Straus & Giroux, 2012). Full footnotes for all data and quotations can be found in the book.

### Three Arguments for the Walkable City

After several decades arguing for more walkable cities as a designer, this city planner have found that it is more useful to do so as an economist, an epidemiologist, and an environmentalist. What follows is a discussion of why these three groups are all independently fighting for the same thing, which is to redesign our cities around the pedestrian.

#### *The Economic Argument*

Many cities ask the same question: How can we attract corporations, citizens, and especially young, entrepreneurial talent? In some cities, they ask it differently: "How can we keep our children from leaving?"

The obvious answer is that cities need to provide the sort of environment that these people want. Surveys—as if we needed them—show how creative class citizens, especially millennials, vastly favor communities with *street life*, the pedestrian culture that can only come from walkability.

The number of 19-year-olds who have opted out of earning driver's licenses has almost tripled since the late seventies, from 1 in 12 to 1 in 4. This driving trend is only a small part of a larger picture that has less to do with cars and more to do with cities, and specifically with how young professionals today view themselves in relation to the city, especially in comparison to previous generations.

The economist Christopher Leinberger compares the experience of today's young professionals with the previous generation. He notes that most 50-year-olds grew up watching *The Brady Bunch, The Partridge Family, and Happy Days*, shows that idealized the late-mid-20$^{th}$-century suburban standard of low-slung houses on leafy lots, surrounded by more of the same. The millennials in contrast, grew up watching *Seinfeld, Friends*, and, eventually, *Sex and the City*. They matured in a mass culture—of which TV was only one part—that has predisposed them to look favorably upon cities, indeed, to aspire to live in them.

This group represent the biggest population bubble in fifty years. 64 percent of college-educated millennials choose first where they want to live, and only then do they look for a job. According to surveys, fully 77 percent of them plan to live in America's urban cores.



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Meanwhile, the generation raised on *Friends* is not the only major cohort looking for new places to live. There's a larger one: the millennials' parents, the front-end boomers. They are citizens that every city wants—significant personal savings, no schoolkids.

And according to Christopher Leinberger, empty nesters want walkability:

> "This group is finding that their suburban houses are too big. . . All those empty rooms have to be heated, cooled, and cleaned, and the unused backyard maintained. Suburban houses can be socially isolating, especially as aging eyes and slower reflexes make driving everywhere less comfortable."

In the 1980s, city planners began hearing from sociologists about something called a NORC: a Naturally Occurring Retirement Community. Over the past decade, a growing number of retires have been abandoning their large-lot houses to resettle in mixed-use urban centers. For many of them, that increased walkability means all the difference between an essentially housebound existence and several decades of continued independence.

Of the 100 million new households expected to take shape between now and 2025, fully 88 million are projected to be childless. This is a dramatic change from 1970, when almost half of all households included children. These new adults-only households won't be concerned about the quality of local schools or the size of their backyards. This fact will favor cities over suburbs, but only those cities that can offer the true urbanism and true walkability that these groups desire.

This growing demand for pedestrian-friendly places is reflected in the runaway success of Walk Score, the website that calculates neighborhood walkability. In this website, which gets millions of hits a day, addresses are ranked in five categories, with a score of 50 needed to cross the *Somewhat Walkable* threshold. 70 points earns a *Very Walkable* ranking, and anything above 90 qualifies as a *Walker's Paradise.* San Francisco's Chinatown earns a 100, while Los Angeles' Mulholland Drive ranks a 9. (Downtown Boise earns an 87, good overall, but about average for a mid-sized downtown.)

If Walk Score is so helpful in helping people decide where to live, then it can also help us determine how much they value walkability. Now that it has been around for a few years, some resourceful economists have had the opportunity to study the relationship between Walk Score and real estate value, and they have put a price on it: $500 to $3000 *per point.* In a very typical city, Charlotte, North Carolina, the economist Joe Cortright. found that each Walk Score point was worth $2000—that's $200,000 across the full scale.

That is the value that houses get for being walkable. But what about cities themselves? Does being more walkable make a whole city worth more?

In 2007, Joe Cortright, the economist responsible for the Walk Score value study cited above, published a report called "Portland's Green Dividend," in which he asked the


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question: what does Portland get for being walkable?

To set the stage, it is useful to describe what makes Portland different. Beginning in the 1970s, Portland made a series of decisions that fundamentally altered the way the city was to grow. While most American cities were building more highways, Portland invested in transit and biking. While most cities were reaming out their roadways to speed traffic, Portland implemented a Skinny Streets program. While most American cities were amassing a spare tire of undifferentiated sprawl, Portland instituted an urban growth boundary. These efforts and others like them, over several decades—a blink of the eye in planner time—have changed the way that Portlanders live.

This change is not dramatic—were it not for the roving hordes of bicyclists, it might be invisible—but it is significant. While almost every other American city saw its residents drive farther and farther every year, and spend more and more of their time stuck in traffic, Portland's vehicle miles traveled per person peaked in 1996. Now, compared to other major metropolitan areas, Portlanders on average drive 20 percent less.

According to Cortright, this 20 percent (4 miles per citizen per day) adds up to $1.1 billion of savings each year, which equals fully 1.5 percent of all personal income earned in the region. And that number ignores time not wasted in traffic: peak travel times have actually dropped 11 minutes per day. Cortright calculates this improvement at another $1.5 billion.

What happens to these savings? Portland is reputed to have the most independent bookstores per capita and the most roof racks per capita. These claims are slight exaggerations, but they reflect a documented above-average consumption of recreation of all kinds. Portland has more restaurants per capita than all other large cities except Seattle and San Francisco.

More significantly, whatever they are used for, these savings are considerably more likely to stay local than if spent on driving. Almost 85 percent of money expended on cars and gas leaves the local economy—much of it, of course, bound for the Middle-East. A significant amount of the money saved probably goes into housing, since that is a national tendency: families that spend less on transportation spend more on their homes, which is as local as investments get.

That's the good new about Portland. Meanwhile, what's happened to the rest of the country? While transportation used to absorb only one tenth of a typical family's budget (1960), it now consumes more than one in five dollars spent. The typical "working-class" family, remarkably, pays more for transportation than for housing.

This circumstance exists because the typical American working family now lives in suburbia, where the practice of "drive-'til-you-qualify" reigns supreme. Families of limited means move further and further away from city centers in order to find housing that is cheap enough to meet bank lending requirements. Unfortunately, in so doing, they



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often find that driving costs outweigh any savings, and their total household expenses escalate.

No surprise, then, that as gasoline broke $4.00 per gallon and the housing bubble burst, the epicenter of foreclosures occurred at the urban periphery, places that required families to have a fleet of cars in order to participate in society, draining their mortgage carrying capacity. These are the neighborhoods that were not hurt by the housing bubble bursting; they were ruined by it.

This is bad news for Orlando and Phoenix, but it's good news for New York, Chicago, and Portland. But the real Portland story is perhaps not its transportation but something else: young, smart people are moving to Portland in droves. Over the decade of the 1990s, the number of college-educated 25 to 34 year-olds increased 50 percent in the Portland metropolitan area—five times faster than in the nation as a whole.

There is another kind of walkability dividend, aside from resources saved and resources reinvested: resources attracted by being a place where people want to live. The conventional wisdom used to be that creating a strong economy came first, and that increased population and a higher quality of life would follow. The converse now seems more likely: creating a higher quality of life is the first step to attracting new residents and jobs. This is why Chris Leinberger believes that "all the fancy economic development strategies, such as developing a biomedical cluster, an aerospace cluster, or whatever the current economic development 'flavor of the month' might be, do not hold a candle to the power of a great walkable urban place."

***The Epidemiological Argument***

On July 9, 2004, three epidemiologists published a book called *Urban Sprawl and Public Health.* Until that day, the main arguments for building walkable cities were principally aesthetic and social. More significantly, almost nobody but the planners was making them. But it turns out that while the planners were shouting into the wilderness about the frustrations, anomie, and sheer waste of suburban sprawl, a small platoon of physicians were quietly doing something much more useful: they were documenting how our built environment was killing us, in at least three different ways: obesity, asthma, and car crashes.

The numbers are compelling. According to the U.S. Centers for Disease Control, fully one-third of American children born after 2000 will become diabetics. For the first time in history, the current generation of youth are expected to live shorter lives than their parents. This is due partly to diet, but partly to planning: the methodical eradication from our communities of *the useful walk* has helped to create the least-active generation in American history.

In any discussion about American health, obesity has to be front and center. In the mid-1970s, only about one in ten Americans was obese, which put us where much of Europe is right now. What has happened in the intervening thirty years is astonishing: by 2007,


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that rate had risen to one in three, with a second third of the population "clearly overweight." According to the rules of the U.S. military, twenty-five percent of young men and forty percent of young women are too fat to enlist.

Much has been written about the absurdity of the American corn-based diet and its contribution to our national girth. But our body weight is a function of calories in and calories out, and the latest data suggests that diet is actually the smaller factor. One recent study, published in the *British Medical Journal*, called "Gluttony or Sloth?" found that obesity correlated much more strongly with inactivity than with diet. Meanwhile, at the Mayo Clinic, Dr. James Levine put test subjects in motion-detecting underwear, placed them all on the same diet, and then began to stuff them with additional calories. As anticipated, some subjects gained weight while others didn't. Expecting to find a metabolic factor at work, he learned instead that the outcome was entirely attributable to physical activity. The people who got fatter made fewer unconscious motions and, indeed, spent on average two more hours per day sitting down.

Over the past decade, there has been a series of studies that attribute obesity to the automotive lifestyle and, better yet, to the automotive landscape. One study, in San Diego, reported that 60 percent of residents in a "low-walkable" neighborhood were overweight, compared to only 35 percent in a "high-walkable" neighborhood. Another, a six-year analysis of 100,000 Massachusetts residents found that the lowest Body Mass Index averages were located in Boston and its inner ring suburbs, while the highest could be found in the "car-dependent" outer ring surrounding Interstate 495.

Now, let's turn to asthma. About fourteen Americans die each day from asthma attacks. That number does not seem particularly high, but it is three times the rate of 1990. Now, 7 percent of American's suffer from Asthma in some form.

Pollution isn't what it used to be. American smog now comes principally from tailpipes, not factories. It is considerably worse than it was a generation ago, and it is unsurprisingly worst in our most auto-dependent cities, like Los Angeles and Houston. In 2007, Phoenix recorded three full months of days in which it was deemed unhealthy for the general public to leave their homes.

Finally, for most healthy Americans, the greatest threat to that health is car crashes. Most people take the risks of driving for granted, as if they were some inevitable natural phenomenon—but they aren't. While the U.S. suffers 12 traffic fatalities annually per 100,000 population, Germany, with its no-speed-limit Autobahn, has only 7, and Japan rates a 4. New York City beats them all, with a rate of 3. If our entire country shared New York City's traffic statistics, we would prevent more than 24,000 deaths a year.

San Francisco and Portland both compete with New York, with rates below 3 deaths per 100,000 population, respectively. Meanwhile, Tulsa comes in at 14 and Orlando at 20. Clearly, it's not just how much you drive, but where you drive, and more accurately how those places were designed. Older, denser cities have much lower automobile fatality rates than newer, sprawling ones. Ironically, it is the places shaped around automobiles


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that seem most effective at smashing them into each other.

In search of some good news, we can turn to Dan Buettner, the National Geographic host and bestselling author responsible for *The Blue Zones: Lessons for Living Longer from the People Who've Lived the Longest.* After a tour of the world's longevity hot spots, Buettner takes his readers through the "*Power Nine:* the lessons from the Blue Zones, a cross cultural distillation of the world's best practices in health and longevity." Lesson One is "Move Naturally":

"Longevity all-stars don't run marathons or compete in triathlons; they don't transform themselves into weekend warriors on Saturday morning. Instead, they engage in regular, low-intensity physical activity, often as a part of a daily work routine. Rather than exercising for the sake of exercising, try to make changes to your lifestyle. Ride a bicycle instead of driving. Walk to the store instead of driving. . ."

Like most writers on the subject, Buettner and his sources neglect to discuss how these "lifestyle" choices are inevitably a function of the design of the built environment. They may be powerfully linked to place—the Blue Zones are zones, after all—but there is scant admission that walking to the store is more possible, more enjoyable, and more likely to become habit in some places than in others. It is those places that hold the most promise for the physical and social health of our society.

***The Environmental Argument***

In 2001, Scott Bernstein, at the Center for Neighborhood Technology in inner-city Chicago, produced a set of maps that are still changing the way Americans think about their country. In these maps, remarkably, the red and the green switched places. This reversal, perhaps even more than the health discussion, threatens to make walkability relevant again.

On typical carbon maps, areas with the greatest amounts of carbon output are shown in bright red, and those with the least are shown in green, with areas in between shown in orange and yellow. The hotter the color, the greater the contribution to climate change.

Historically, these maps looked like the night-sky satellite photos of the United States: hot around the cities, cooler in the suburbs, and coolest in the country. Wherever there are lots of people, there is lots of pollution. A typical carbon map, such as that produced in 2002 by the Vulcan Project at Purdue University, sends a very clear signal: countryside good, cities bad.

These maps are well in keeping with the history of the environmental movement in the United States, which has traditionally been anti-city, as has so much American thought. This strain traces its roots back to Thomas Jefferson, who described large cities as "pestilential to the morals, the health, and the liberties of man." Not without a sense of


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humor, he went on: “When we get piled up upon one another in large cities, as in Europe, we shall become as corrupt as in Europe, and go to eating one another as they do there.”

For a long time, these were the only type of carbon map, and there is certainly a logic in looking at pollution from a location-by-location perspective. But this logic was based on an unconsidered assumption, which is that the most meaningful way to measure carbon is by the square mile.

This assumption is false. The best way to measure carbon is per person. Places should be judged not by how much carbon they emit, but by how much carbon they cause us to emit. There are only so many people in the United States at any given time, and they can be encouraged to live where they have the smallest environmental footprint. That place turns out to be the city—the denser the better.

Or, as the economist Ed Glaser puts it: “We are a destructive species, and if you love nature, stay away from it. The best means of protecting the environment is to live in the heart of a city.”

No American city performs quite like New York. The average New Yorker consumes roughly one third the electricity of the average Dallas resident, and ultimately generates less than one third the greenhouse gases of the average American. The average resident of Manhattan consumes gasoline “at a rate that the country as whole hasn’t matched since the mid-1920s.”

New York is America’s densest big city and, not coincidentally, the greenest. But why stop there?: New York consumes half the gasoline of Atlanta. But Toronto cuts that number in half, as does Sydney—and most European cities use only half as much as those places.

This condition exists not because our buildings or cars are less efficient, or our buildings are less green, but because our cities are not as well organized around walking. This point was made clear in a recent EPA study, “Location Efficiency and Building Type—Boiling it Down to BTUs,” that compared four factors: drivable vs. walkable (“transit-oriented”) location; conventional construction vs. green building; single-family vs. multifamily housing; and conventional vs. hybrid automobiles. The study demonstrated that, while every factor counts, none counts nearly as much as walkability. Specifically, it showed how, in drivable locations, transportation energy use consistently tops household energy use, in some cases by more than 2.4 to 1. As a result, the most green home (with Prius) in sprawl still loses out to the least green home in a walkable neighborhood.

It turns out that trading all of your incandescent light bulbs for energy-savers conserves as much carbon per year as living in a walkable neighborhood does each week. Why, then, is the vast majority of our national conversation on sustainability about the former and not the latter? Witold Rybczynski puts it this way:


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> Rather than trying to change behavior to reduce carbon emissions, politicians and entrepreneurs have sold greening to the public as a kind of accessorizing. "Keep doing what you're doing," is the message, just add another solar panel, a wind turbine, a bamboo floor, whatever. But a solar-heated house in the suburbs is still a house in the suburbs, and if you have to drive to it—even in a Prius—it's hardly green.

This accessorizing message has been an easy sell in America, where it is considered politically unwise to ask consumers to *sacrifice,* to alter their quality of life in service of some larger national goal, such as keeping a dozen of our largest cities above sea level. But what if there were a more positive quality-of-life discussion, one that allowed us to satisfy consumer demands that have not been met by a real estate industry centered on suburban sprawl.

The gold standard of quality-of-life rankings is the Mercer Survey, which carefully compares global cities in the ten categories including political stability, economics, social quality, health, education, recreation, housing, and even climate. Its rankings shift slightly from year to year, but the top ten cities always seem to include a number of places where they speak German (Vienna, Zurich, Dusseldorf, etc. ) along with Vancouver, Auckland, and Sydney. These are all places with compact settlement patterns, good transit, and principally walkable neighborhoods. Indeed, there isn't a single auto-oriented city in the top 50. The highest rated American cities in 2010, which don't appear until number 31, are Honolulu, San Francisco, Boston, Chicago, Washington, New York, and Seattle.

Looking at this ranking, the message is clear. America's cities, which are twice as efficient as its suburbs, burn twice the fuel of European, Canadian, and Aussie/Kiwi places. Yet the quality of life in these foreign cities deemed considerably higher. This is not to say that quality of life is inversely related to sustainability, but merely that many Americans, by striving for a better life, might find themselves moving to places that are more like the winners. . . or better yet, might try transforming their cities to resemble the winners. This sort of transformation could include many things, but one of them would certainly be walkability.

Vancouver, always a top contender, proves a useful model. By the mid-20th century, it was fairly indistinguishable from a typical U.S. city. Then, beginning in the late 50s, when most American cities were building highways, planners in Vancouver began advocating for high-rise housing downtown. This strategy, which included stringent measures for green space and transit, really hit its stride in the 1990s, and the change has been profound. Over the past fifteen years, the amount of walking and biking citywide has doubled, from fifteen percent to thirty percent of all trips. Vancouver is not ranked #1 for livability because it is so sustainable; the things that make it sustainable also make it livable.

Quality of life—which includes both health and wealth—may not be a function of our ecological footprint, but the two are deeply interrelated. To wit, if we pollute so much



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because we are throwing away time, money, and lives on the highway, then both problems would seem to share a single solution, and that solution is to make our cities more walkable.



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## PART I: BACKGROUND

### What Causes People to Walk?

The pedestrian is a delicate creature. While there are many harsh environments in which people are physically able to walk, there are few in which they actively choose to walk, especially when the option of driving is available. The following four sections describe a hierarchy of conditions that must be met if the average person is going to make that choice. Each is necessary but not alone sufficient. They are:

- A reason to walk;
- A safe walk;
- A comfortable walk; and
- An interesting walk.

### A Reason to Walk

As Jane Jacobs noted, "Almost nobody travels willingly from sameness to sameness. . . even if the physical effort required is trivial." For people to choose to walk, the walk must serve some purpose. In planning terms, that goal is achieved through mixed use. Or, more accurately, placing the proper balance of the greatest number of uses all within walking distance of each other.

The first step towards achieving better walkability, therefore, is to consider all of the uses present in the heart of your city, and to see which uses are lacking or in short supply. These uses include office, housing, retail, dining, entertainment, hospitality, schools, recreation, worship, and others. The better these uses can be balanced in your downtown, the more walkable it will be. In most downtowns, the use that is most underrepresented is housing. This is certainly the case in Boise, where a supposed workplace/housing balance of 43:1 places the downtown among the least inhabited mid-size city centers in the country.

Like many downtowns that are just beginning to welcome new residents, Boise has seen some progress towards providing upscale housing such as the Aspen Lofts. But luxury condominiums, and apartments as well, are necessarily directed at a limited audience of potential residents, and also not at those who are most ready to live downtown: recent college graduates of moderate income. The challenge to attract educated millennials downtown is made more difficult by the presence of a large amount of attractive housing in nearby residential neighborhoods. While not cheap, this housing is attainable to those who are willing to take roommates, and further limits the pool of young adults who would otherwise seek a more urban lifestyle. So located, these residents contribute to downtown only a fraction of the vitality that they would provide if they had chosen a 24/7 urban lifestyle.

If it is to attract a large number of new residents, downtown must offer a housing product that is commensurate or competitive to the suburban bungalow: either sharable units of almost similar price, or "micro units" costing what a single millennial can afford. Like in



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many cities, developers in Boise have had a difficult time filling this bill. It is hoped that the new apartments in the Owyhee will be offered at an attainable price, but they are likely to be too nice to rent cheap, particularly as the developers opted against building micro units. The City and its pro-urban institutions, if they want more residents downtown—as they should—must actively help developers to build attainable housing in the city center. This help could take a more familiar form, like Tax-Increment Financing, or something more unusual. One approach that has worked well in other cities is the leveraging of underutilized parking structures, allowing developers to satisfy their lenders' parking requirements with spaces that have already been built. The savings resulting from this strategy—to be discussed in greater detail in Part IV—could contribute significantly to the affordability of market-rate housing downtown.

**A Safe Walk**

While crime is sometimes a concern, most people who avoid walking do so because the walk feels dangerous due to the very real threat of vehicles moving at high speed near the sidewalk. Statistically, automobiles are much more dangerous to pedestrians than crime, and the key to making a street safe is to keep automobiles at reasonable speeds and to protect pedestrians from them. This is achieved by meeting the following nine criteria, each of which will be addressed individually:

- A network of many small blocks;
- The proper number of driving lanes;
- Lanes of proper width;
- Avoiding One-Ways
- Limited use and length of turn lanes;
- Including bike lanes;
- Continuous on-street parking;
- Continuous shade trees; and
- Pedestrian-friendly signals.

*A Network of Many Small Blocks*

Generally, the most walkable cities are those with the smallest blocks. This is because many small blocks allow for many small streets. Because traffic is dispersed among so many streets, no one street is required to handle a great amount of traffic, and that traffic does not reach a volume or speed that is noxious to the pedestrian. In a recent California study, cities with larger blocks suffered more than three times as many vehicular fatalities as cities with smaller blocks. (Marshall and Garrick: *Street Network Types and Road Safety*.) Smaller blocks also make walking more convenient: the more blocks per square mile, the more choices a pedestrian can make, and the more opportunities there are to alter one's path to visit a useful address such as a coffee shop or dry cleaner. These choices make walking more interesting, while shortening the distances between destinations. Downtown Boise benefits from a quite small block size—about 300 feet square—and almost none of these blocks have been consolidated into *superblocks*, which tend to decrease walkability by focusing traffic on fewer streets, causing them to become too wide. The logic of small blocks suggests that no further block consolidations should


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be allowed, such as the one currently considered at St. Luke's, which will significantly undermine the effectiveness of the street grid in that location.

*The Proper Number of Travel Lanes*
The more lanes a street has, the faster traffic tends to go, and the further pedestrians have to cross. As suggested above, most small-block systems also have small streets, and this is what makes them safe. However, many of downtown Boise's streets have considerably more lanes than its small-block network would lead one to expect. This is partly due to the concentration of trips on certain well-connected axes—Capitol & 9th across the Boise River, and Front & Myrtle to and from the Connector—and partly due to the fact that the downtown's wide, western-style streets have been striped to maximize capacity, often well beyond demand. Right-sizing these streets to more economically satisfy the demand upon them will be key to improving walking and cycling downtown.

*Lanes of Proper Width*
Different-width traffic lanes correspond to different travel speeds. A typical urban lane width is 10 feet, which comfortably supports speeds of 35 mph. A typical highway lane width is 12 feet, which comfortably supports speeds of 70 mph. Drivers instinctively understand the connection between lane width and driving speed, and speed up when presented with wider lanes, even in urban locations. For this reason, any urban lane width in excess of 10 feet encourages speeds that can increase risk to pedestrians. Many streets in downtown Boise contain lanes that are 12 feet wide or more, and drivers can be observed approaching highway speeds when using them. On certain streets, highway-style shoulders also contribute effectively to lane width and thus to drivers' comfort while speeding. Such shoulders are not appropriate to urban environments; which is why few cities other than Boise have them.

*Avoiding One-Ways*
Like many American cities, Boise in the 1970s (?) replaced its two-way grid downtown with a fairly comprehensive system of one-way pairs. This transformation, by eliminating left turns across traffic and by allowing for synchronized signals, helped to speed the motion of cars through downtown. Unfortunately, it did so at the expense of pedestrian comfort and business vitality. Drivers tend to speed on multiple-lane one-way streets, because there is less friction from opposing traffic, and due to the temptation to jockey from lane to lane. In contrast, when two-way traffic makes passing impossible, the driver is less likely to slip into the "road racer" frame of mind. One-ways also have a history of damaging downtown retail districts, principally because they distribute vitality unevenly, and often in unexpected ways. They have been known to harm stores consigned to the morning path to work, since people do most of their shopping on the evening path home. They can also intimidate out-of-towners, who are afraid of becoming lost, and they frustrate locals, who are annoyed by all the circular motions and additional traffic lights they must pass through to reach their destinations. Wisely, the Ada County Highway District is in the process of converting many of its one-way pairs back to two-way traffic, but this effort is not comprehensive.


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*Limited Use and Length of Turn Lanes*
Left-hand turn lanes are by no means the standard approach to intersection design. They should be used only at intersections where congestion is caused by cars turning left. Exclusive right-hand turns lanes are rarely justified, and only make occasional sense where heavy pedestrian activity causes queuing right-hand turners to dramatically impede through-traffic—something that almost never happens in Boise. When unnecessary turn lanes are provided, the extra pavement width encourages speeding, lengthens crossing distances, and takes up roadway that could otherwise be used for on-street parking or bike lanes. When justified, turn lanes should be just long enough to hold the number of cars that stack in them in standard rush-hour conditions, and no longer, for the same reasons. Some turn lanes in downtown Boise seem to have been inserted in an attempt to forestall anticipated congestion rather than to solve a specific challenge, and many seem longer than their queues of cars would mandate.

*Including Bike Lanes*
There are many reasons to institute a comprehensive downtown bicycle network, including pedestrian safety. Bikes help to slow cars down, and new bike lanes are a great way to use up excess road width currently dedicated to oversized driving lanes. However, more significantly, Boise has a nascent biking culture that seems poised to flower if provided with adequate facilities. The experience in most American cities has been that a modest investment in bike lanes results in a dramatic increase in cycling. As one observer noted, Boise has better weather and fewer hills than Portland, and a larger recreational cycling population. But downtown Portland has dozens of miles of high-quality bike lanes, and thus a much larger cycling population. Experience in a large number of cities is making it clear that the key to bicycle safety is the establishment of a large biking population—so that drivers expect to see them—and, in turn, the key to establishing a large biking population is the provision of buffered lanes, broad lanes separated from traffic, ideally by a lane of parked cars.

*Continuous On-Street Parking*
Whether parallel or angled, on-street parking provides a barrier of steel between the roadway and the sidewalk that is necessary if pedestrians are to feel fully at ease while walking. It also causes drivers to slow down out of concern for possible conflicts with cars parking or pulling out. On-street parking also provides much-needed life to city streets, which are occupied in large part by people walking to and from cars that have been parked a short distance from their destinations. A limited number of important streets in downtown Boise have lost their parallel parking in order that additional travel lanes could further ease traffic flow—for example, along North Capitol Avenue. Additional streets are slated to lose some parking as they receive cycling facilities or are converted from one-way to two-way flow. These changes must be considered carefully in light of the fact that unprotected sidewalks are generally not hospitable to walking.

*Continuous Shade Trees*
In the context of pedestrian safety, street trees are similar to parked cars in the way that they protect the sidewalks from the moving cars beyond them. They also create a perceptual narrowing of the street that lowers driving speeds. Recent studies show that,


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far from posing a hazard to motorists, trees along streets can actually result in fewer injury crashes. But they only perform this role when they are sturdy, and planted tightly enough to register in drivers' vision. Most downtown streets in Boise lack adequate tree cover, which is not surprising given the cost of planting and maintaining trees in a dry climate. This cost is easier to justify when one enumerates the many hidden benefits of street trees, which include the absorption of stormwater, tailpipe emissions, and UV rays; the lowering of urban heat islands and air-conditioning costs; increased income streams to businesses; and dramatically higher real-estate values (and property tax revenue) on tree-lined streets. In a recent poll, only a minority of ACHD customers cited "landscape" as a high-priority roadway investment; that opinion belies the fact, often forgotten, that few people will choose to walk along a street that is not properly shaded. This means that trees are the most essential for pedestrian life along sidewalks that lack steady building frontages.

*Pedestrian-Friendly Signals.* Cities that prioritize driving have long signal cycles and "dedicated" crossing regimes in which pedestrians are allowed to cross only when no cars are moving. Cities that prioritize walking have signal cycles of 60 seconds or less (total), and "concurrent" crossing regimes, in which pedestrians move with parallel traffic, and turning cars must wait for the crosswalks to clear. Such signals are made more effective by a technology called the Leading Pedestrian Interval (LPI), in which pedestrians receive a 3-second head start to enter (and "claim") the intersection before cars receive a green light. There are a number of locations where these could be put to good use in the downtown. Even more significant in Boise is the speed to which one-way green-signal progressions are timed. An informal test of the light cycles on the city's primary one-way pairs—Front & Myrtle, Capitol & 9$^{th}$, Idaho & Main—would seem to suggest that these lights progress at a pace that welcomes driving at speeds slightly above the posted limit. As will be discussed ahead, these posted limits should be lower—many cities are instituting "20 is Plenty" laws in their downtowns—but, in any case, the green-signal progressions must not be timed at pace which rewards illegal speeds.

**A Comfortable Walk**

The need for comfortable walk is perhaps the least intuitive part of this discussion, because it insists that people like to be *spatially contained* by the walls of buildings. Most people enjoy open spaces, long views, and the great outdoors. But people also enjoy – and need – a sense of enclosure to feel comfortable as pedestrians.

Evolutionary biologists tell us how all animals simultaneously seek two things: prospect and refuge. The first allows you to see your predators and prey. The second allows you to know that your flanks are protected from attack. That need for refuge, deep in our DNA from millennia of survival, has led us to feel most comfortable in spaces with well defined edges. This issue has been discussed from before the Renaissance, in which it was argued that the ideal street space has a height-to width ratio of 1:1. More recently, it has been suggested that any ratio beyond 1:6 fails to provide people with an adequate sense of enclosure, creating a *sociofugal* space: an environment which people want to flee.


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Therefore, in addition to feeling safe from automobiles, humans are not likely to become pedestrians unless they feel enclosed by firm street edges. This is accomplished in several ways:

*Streets Shaped by Buildings*
The typical way in which cities shape streets is with the edges of buildings that pull up to the sidewalk. These buildings need to be of adequate height so that the 1:6 rule is not violated, ideally approaching 1:1. Gaps between buildings should not be very wide. If a street is intended to be walkable, then no building along it should be allowed to sit behind a parking lot.

*No Exposed Surface Parking Lots*
Most American cities suffer from the windswept spaces created where historic buildings have been torn down to provide ample surface parking. These parking lots are often the single greatest detriment to pedestrian comfort, and city codes and private land-use practices must be reviewed in order to fundamentally alter the conditions that lead to their proliferation. Among these are the on-site parking requirement, which should ideally be replaced by a regime that treats parking as a public good, provided strategically in the proper locations to encourage more productive land use. Some streets in the study area are currently lined by so many parking lots, that converting them to more walkable status is unimaginable in the short term. Other streets contain only one or two parking lots that mar an otherwise viable pedestrian trajectory; these lots should be made high-priority development targets. Conveniently, it is not necessary to eliminate such parking lots fully; rather, only the front 60 feet (or so) need to be replaced by a building against the sidewalk.

*Street Trees*
Already mentioned under Safety, street trees are also essential to pedestrian comfort in a number of ways. They reduce ambient temperatures in warm weather and reduce the effects of wind on cold days. Trees also improve the sense of enclosure by "necking down" the street space with their canopies. A consistent cover of trees can go a long way towards mitigating the impacts of an otherwise uncomfortable street space, but the trees must be substantial. The City's tree list should be reviewed and purged of any species that is merely decorative and does not grow to a significant height.

**An Interesting Walk**

Finally, even if a walk is useful, safe, and comfortable, people will not chose to go on foot unless it is also at least moderately entertaining. There needs to be something interesting to look at.

Humans are among the social primates, and nothing interests us more than other people. The goal of all of the designers who make up the city must be to create urban environments that communicate the presence, or likely presence, of human activity. This is accomplished by placing "eyes on the street," windows and doors that open, and


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avoiding all forms of blank walls. These include the edges of structured parking lots, which must be shielded by a minimum 20-foot thickness of habitable building edge, at least at ground level. Cities that support walkability do not allow any new parking structures to break this rule in their designated walkable corridors.

The activity that is placed against the sidewalk is also important. Retail use is much more interesting than office or residential use. Moreover, successful retail requires connectivity, so the goal of continuous retail against designated streets needs to inform planning requirements.

A final enemy of pedestrian interest is repetition. The era of the multi-block mega-project is fortunately over, but cities must take pains not to allow any single architectural solution to occupy more than a few hundred feet of sidewalk edge. Boredom is another reason why "almost nobody travels willingly from sameness to sameness," and multi-building developments should be asked to distribute schematic design responsibility to multiple architects (even within the same firm), to avoid a city-as-project outcome. Many hands at work is another way to suggest human activity, especially when the number of humans on the sidewalk is less than ideal.



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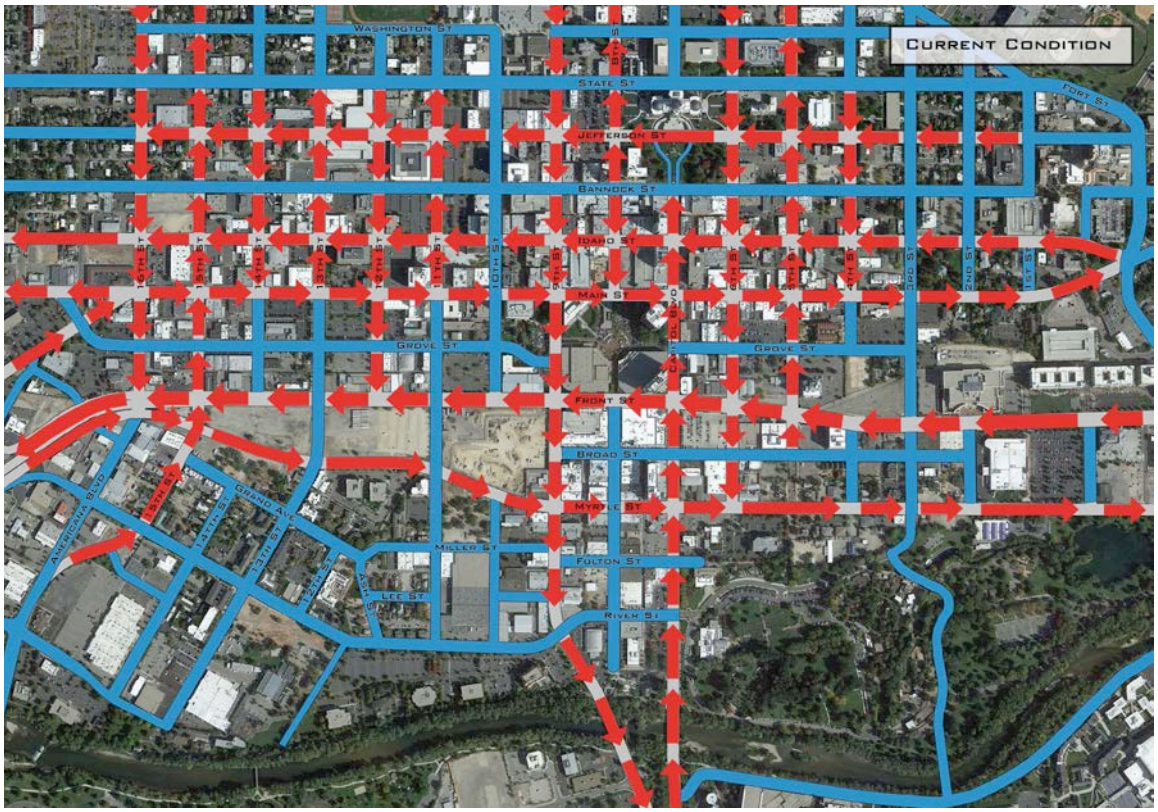
## PART II: GENERAL RECOMMENDATIONS

General Recommendations are organized into four categories: Street Network, Bicycle Network, the Transit Hub, and Parking Policy.

### The Street Network

Downtown Boise is blessed with a dense network of small blocks, and—some would say—cursed with a comprehensive system of one-way streets. The disadvantages of one-way streets has already been discussed, and it is because of these disadvantages that dozens of cities across the country have been reverting these systems back to two-way traffic, including in Oklahoma City, Miami, Dallas, Minneapolis, Charleston, and elsewhere. In many of these places, the two-way reversion has been credited with the resuscitation of struggling retail districts.




*In the current street network for downtown Boise, almost all significant streets are one-ways.*

One such example is in Savannah, Georgia, where, in 1969, a one-way system was applied to many of the north-south streets in the original Oglethorpe grid. The architect Christian Sottile, commissioned by the City to study East Broad Street, found that, within three years of it's one-way conversion, the street had lost almost two-thirds of its active (tax-paying) addresses. The city reverted the street back to two-way in 1990 and, in short order, the number of active addresses shot up by fifty percent.



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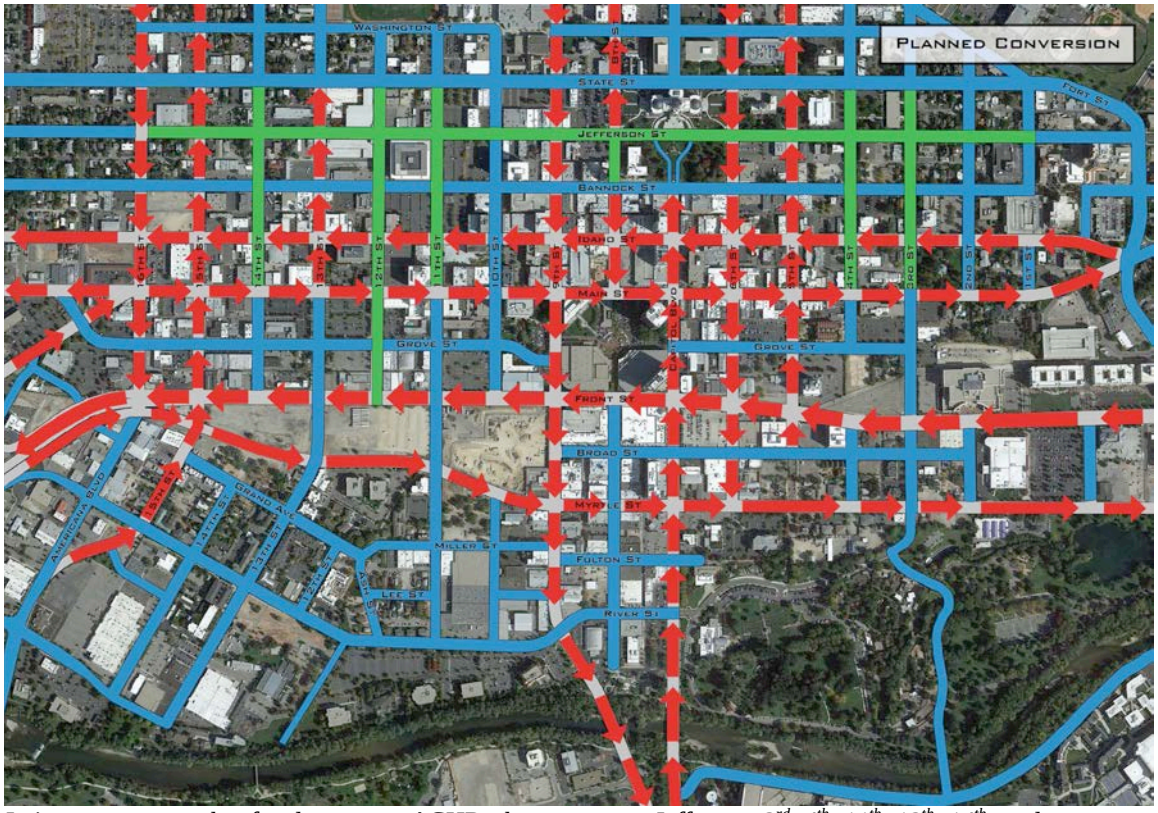
A similar experience occurred in Vancouver, Washington, where a two-way reversion in 2008 is credited with bringing a moribund Main Street district back to life. According to Alan Ehrenhalt in *Governing* magazine, business traffic has roughly doubled, without any of the feared traffic congestion. The head of the Downtown Association, Rebecca Ocken, was quoted as follows: "One-way streets should not be allowed in prime downtown retail areas. We've proven that."

There are certainly exceptions to the two-way rule, as Boston's Newbury Street and Palm Beach's Worth Avenue will attest. However, there is no record of a city reverting its streets back to two-way and not being delighted with the outcome. It is perhaps for this reason that the Ada County Highway District (ACHD) has been investigating two-way reversions for some time, and currently plans to complete a first-phase reversion of seven street segments, shown below.




*In its most recent plan for downtown, ACHD plans to revert Jefferson, 3rd, 4th, 11th, 12th, 14th, and a segment of 8th back to two-way traffic.*

As a first step, this reversion is ambitious and laudable. In considering next steps, it is important to study the lane counts and traffic volumes along each street, to see if the network will function smoothly with a greater number of two-way streets. We know that two-way travel is better both for pedestrians and for businesses, but will the anticipated volume of traffic fit comfortably within a more comprehensive two-way system?



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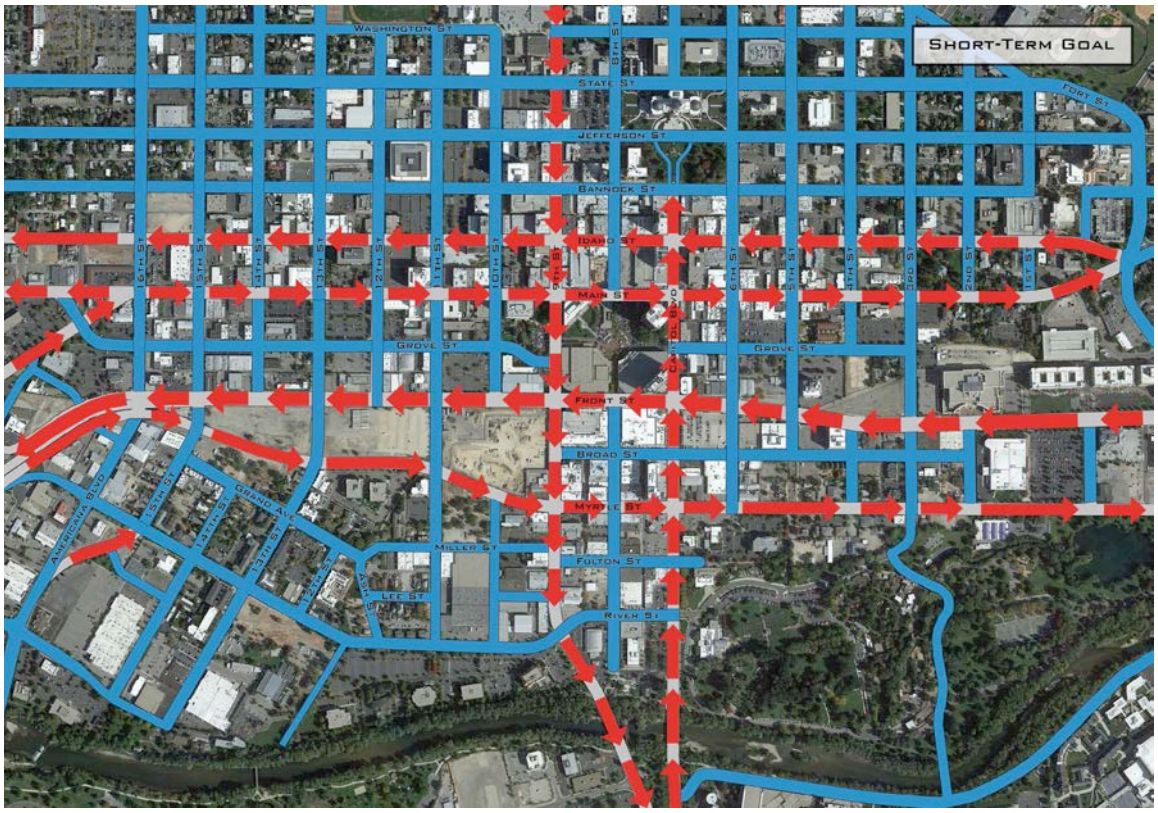
A more thorough discussion of lane counts and traffic volumes will occur ahead, under *A Strategy for Street Redesign.* For the purposes of this section, that discussion can be summarized as follows: with the exception of the Front & Myrtle pair and the southern half of the Capitol & 9th pair, there do not seem to be any significant impediments to a full two-way reversion. No other street handles a volume of traffic that would burden it in a two-way configuration—this statement will be backed up with data ahead—and there are no structural factors such as highway ramps that would make conversion particularly expensive, that is, requiring much more than new stripes and reconfigured (or removed) signals.

For that reason, and barring other factors, the picture below could be said to represent the "ideal world" reconfiguration of the streets in downtown Boise. This proposal avoids the expense and bureaucratic red-tape associated with redirecting traffic on Front and Myrtle—two heavily trafficked State roads—as they ramp up and down to and from the Connector; it avoids reconfiguring Capitol Street as it splits into North Capitol and 9th Street to cross the Boise River; and it avoids re-signaling the four major intersections of these four streets. The only other tricky point, where Warm Springs splits into Idaho and Main, is resolved a block west, where eastbound traffic on Idaho can be diverted south to Main on 1st Street.

*In an ideal world, an affordable and achievable reversion to two-way traffic downtown might look something like this.*

However, for a number of reasons, this ideal vision is unlikely to become reality, and that may be for the best. First of all, every street reversion costs money, and the law of diminishing returns suggests that, beyond a certain point, these reversions will become increasingly difficult to fund. More to the point, ACHD is by necessity a conservative organization, and it is helpful when working with such organizations to set realistic goals that can be embraced, and eventually funded, with a limited amount of indigestion.

A perhaps more compelling reason is the way that this conversation is complicated by the opportunity for inserting cycle facilities. As has already been mentioned, the type of cycle facility that best creates a cycling population is the separated, buffered lane. These lanes take up a fair amount of room, and are therefore most easily inserted into streets that have the excess pavement to fit them. Given that a conversion from one-way to two-way often mandates the insertion of a center left-hand turn lane, it is much more difficult to fit buffered lanes into two-way streets than into one-way streets. Put differently—and as will become apparent ahead—it is only in a one-way configuration that certain important downtown streets are likely to be able to have room for first-class cycling facilities.




*The recommended reconfiguration of downtown streets reverts all streets to two-way except for the pairs of Front & Myrtle, Capitol & 9th, and Idaho & Main.*

For these reasons, the most promising plan for two-way reversion may be the one pictured above, which maintains the one way pairs of Front & Myrtle, Capitol & 9th, and Idaho & Main, while reverting all the lesser streets back to two way. As will be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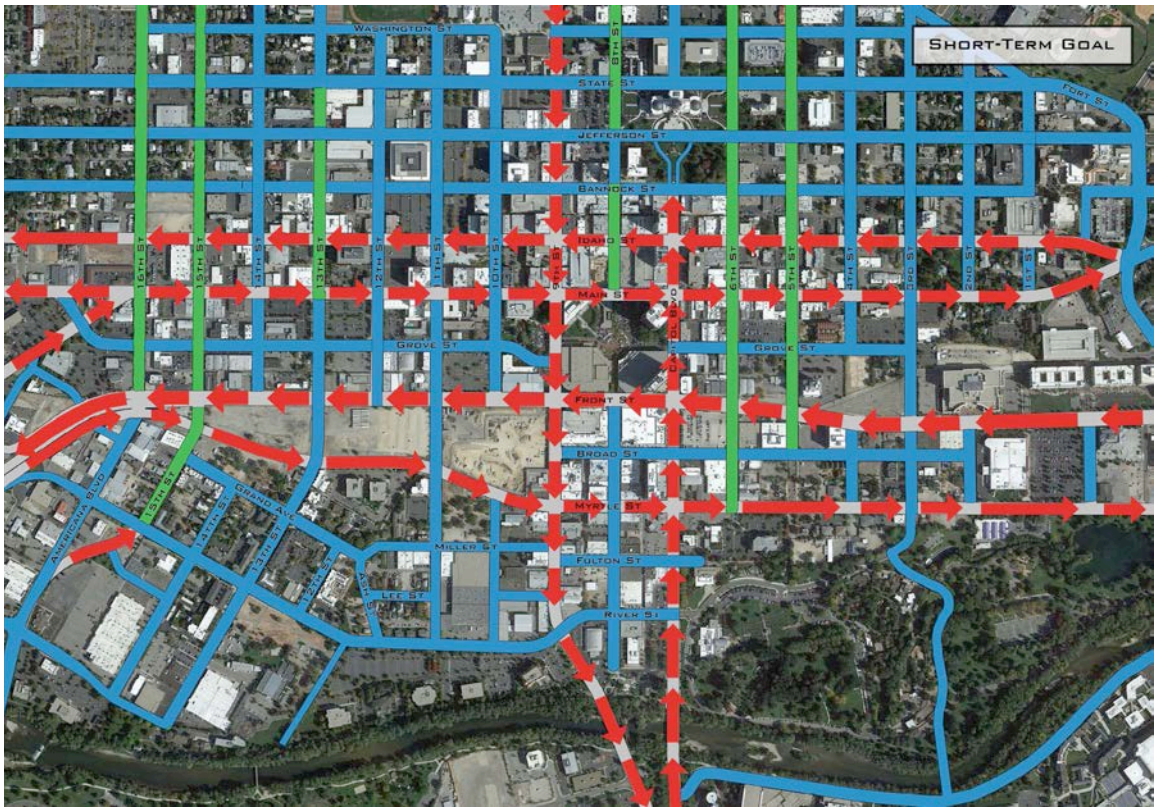
discussed ahead under *The Bicycle Network*, this configuration is proposed in conjunction with buffered bike lanes being inserted on Capitol, 9th, Main, and Idaho.

This proposal takes the planned ACHD conversion and supplements it with the following north-south streets: 5th, 6th, 8th, 13th, 15th, and 16th. The second phase two-way reversion, then, would be the streets shown in green below.




*The streets shown in green constitute the proposed second-phase two-way reversion in downtown Boise.*

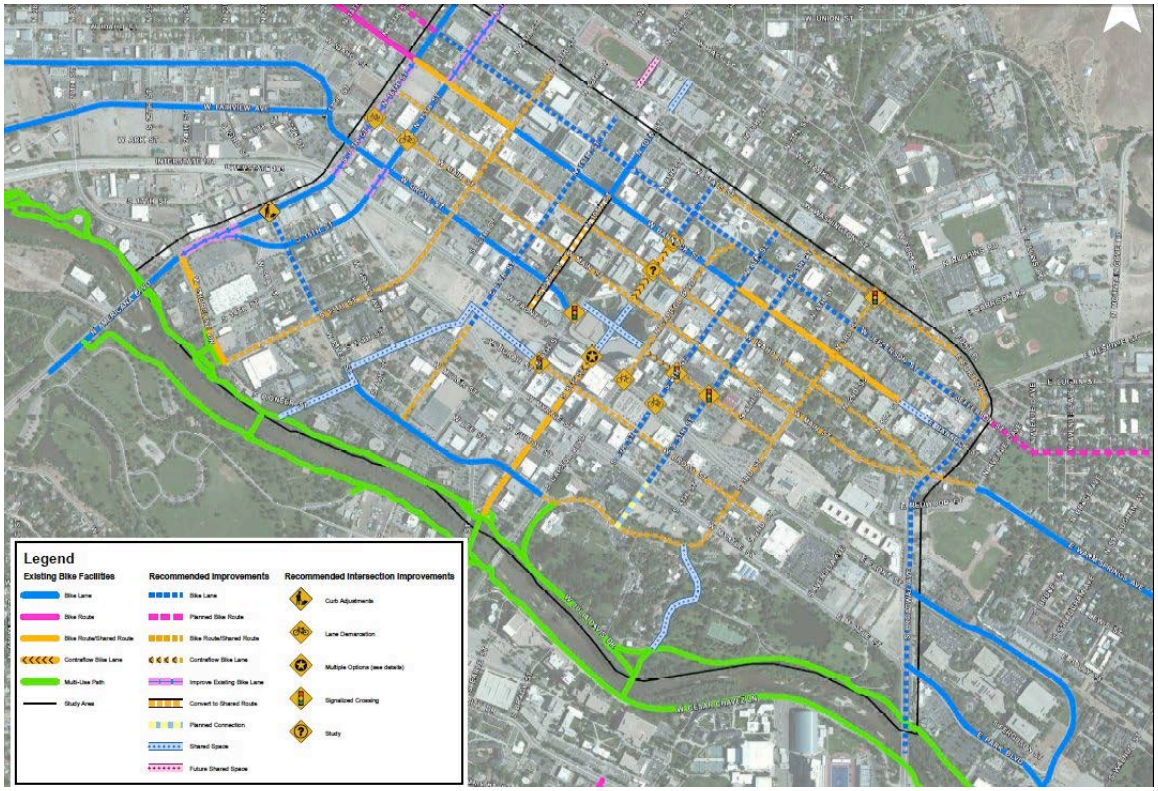
Of these streets, all are controlled by ACHD except for a segment of 8th Street that will be discussed in more detail ahead under *Downtown North-South Thoroughfares.* Again, none have traffic volumes that suggest that more than one lane in each direction is necessary, perhaps supplemented at a few key intersections with short left-hand turn lanes. ***Making this conversion a priority is the first Specific Recommendation of this report.***

It also raises the first likely contention with this report, since ACHD has already studied the reversion of 5th and 6th streets to two-way, and recommended against it. Traffic counts on these streets are well below the 12,000 cars per day that can easily be handled by a simple two-laner, and a fraction of the 20,000 that can be handled by a two-laner with center turn lanes. This raises the question of what criteria led to the recommendation against reversion. Reaching a conclusion on this first recommendation will likely require a larger discussion specifically around these criteria.

It is hoped that this discussion will be informed by the experience in other places. Of the dozens of cities that have reverted downtown streets from one-way to two-way traffic, none have experienced the crippling congestion that was feared by those who opposed the conversion.

**The Bicycle Network**

While Boise has the beginnings of a downtown bicycle network, everyone agrees that there is room for improvement. The City's Downtown Implementation Plan, well underway, has put forward a comprehensive proposal for adding cycling facilities, the product of many hours of consideration and negotiation. While certainly a step forward, this plan seems to have been based on a number of assumptions that bear questioning. Doing so results in an alternative proposal.




*The current bicycle proposal, a part of the Downtown Implementation Plan*

The first assumption worth questioning is the rejection of separated, buffered lanes. As discussed, many American cities have introduced these lanes, and they have proved to be without equal when it comes to growing, even multiplying, the population of cyclists. They have become a standard in Europe, and are a recommended practice of the U.S. Federal Highway Administration, as they have been demonstrated to improve safety for all road users. If Boise truly wishes to become a first-class cycling city, the use of these devices is not optional.



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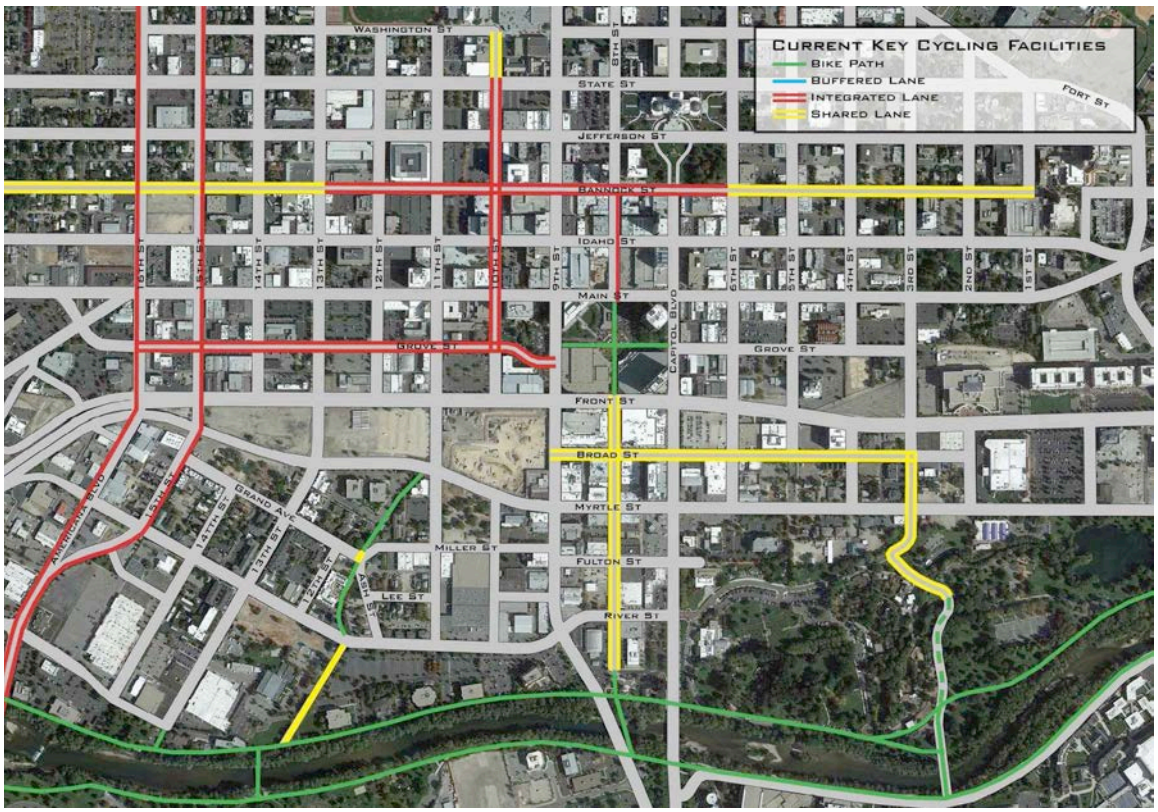
The second assumption worth questioning is that parallel parking, a vital contributor to pedestrian comfort, needs to be sacrificed to provide bike lanes. The current cycling plan removes long stretches of parallel parking from Jefferson and 5th Streets. A commitment to preserving parallel parking would result in a different outcome.

Finally, the plan seems to have a slightly different orientation than what would result in the safest outcome, which would be the insertion of bike lanes not only to serve cyclists, but to use up additional roadway width that is encouraging speeding. A reconsideration of downtown street network in terms of where there is simply too much pavement—either extra lanes or lanes that are too wide—leads to a somewhat different outcome that the current proposal.

The paragraphs that follow attempt to explain and justify the alternative cycling facilities plan that is recommended here.

The map below shows the key cycling facilities in downtown Boise. It shows three types of facilities: Bike Paths separated from streets; Integrated Lanes located in streets next to driving lanes; and Shared Lanes, which are driving lanes that also invite cyclists. As a map of key facilities only, it does not show all of the shared lanes, only the ones that are most important for connectivity.




*The current map of key cycling facilities contains no buffered lanes and a number of difficult transitions.*



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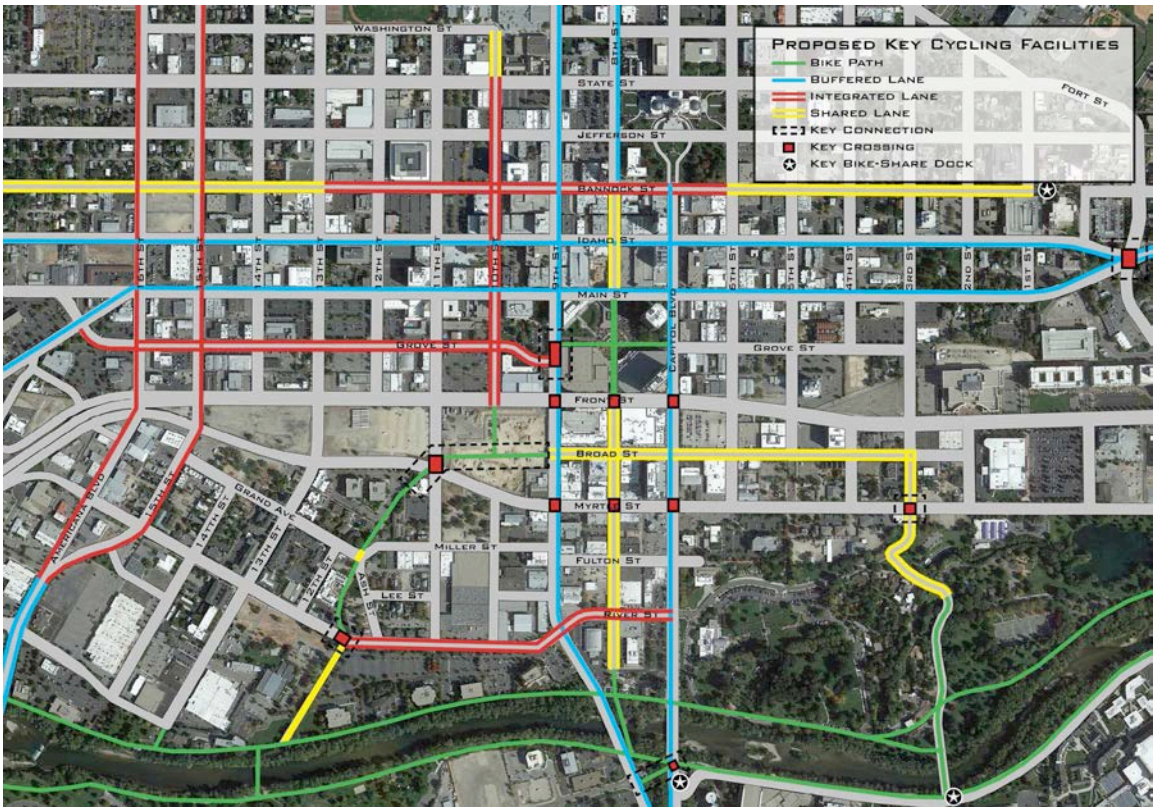
Downtown cyclists will be familiar with this diagram. It shows the Integrated Lanes in 10th, 15th, 16th, Grove, and Bannock, and how those lanes either transition to comfortable Shared Lanes or end unpleasantly; it shows the Bike Paths along the Boise River, down the Pioneer Trail (next to 12th Street), and through The Grove, paths that are all limited in speed due to the presence of pedestrians; and it shows the Shared Paths connecting the anchors of the St. Lukes and BSU to the heart of downtown, most notably the 3rd & Broad connection that would allow BSU students to drink and not drive if the path through Julia Davis Park would stay open at night.

The proposed revision to this diagram is shown below. It contains the following improvements:

- Buffered Lanes, separated from the roadway by parked cars, are inserted into the two pairs of Capitol & 9th and Idaho & Main. As will be demonstrated in Part III, there is ample space for these lanes, which will fundamentally transform the experience of cycling in downtown. ACHD has indicated that it is open to considering buffered lanes in these locations.

- Where they join at Warm Springs Road, the Idaho and Main bike lanes continue as a pair of Buffered Lanes. Where it reaches Bannock, the Buffered Lane on Capitol transitions over to 8th Street via Bannock's Integrated Lanes.



*The proposed map of key cycling facilities.*



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- The Bike Path through Julia Davis park is kept open at night, and the Pioneer Trail path is connected through JUMP to Broad Street.

- Integrated Lanes are added to River Street, and to the block of 10th Street that connects it to JUMP.

- With the introduction of the Capitol & 9th pair, the counterflow bike lane currently on 8th Street can be eliminated, but this street segment will still function as a shared facility.

- Notice that bike lanes are not proposed for Jefferson, where it is a challenge to make them fit.

- Key crossings are marked with a red square. These are places where street markings are needed to make cycling safe. The most important and complex crossing is on Capitol Boulevard at BSU.

- While Bike Share docks should be located more comprehensively, this map indicates three places where docks are essential: at BSU (in two locations) and at the western end of the St. Luke's Campus.

The above diagram shows only key facilities. It needs to be supplemented by a plan that additionally applies cycle facilities to all other streets where it is welcome, in an effort to absorb excess road width. This plan is shown on the next page.

This next drawing indicates how all streets except Front, Myrtle, and State are considered safe enough to accept cyclists. The proper facility for each street—indeed for each street segment—needs to be determined by what fits, or, more to the point, how best to use up excess pavement. Specifically, each orange street has a curb-to-curb width that will allow, in addition to its travel and parking lanes, either integrated lanes, sharrows, or nothing, as follows:

- Where the travel lanes are 15 feet wide or wider, each should be subdivided into a 10-foot travel lane and an Integrated Lane for bikes.

- Where the travel lanes are between 12 and 15 feet in width, each should receive sharrow markings to indicate that the excess lane width is in service to bikes.

- Where the travel lane 12 feet wide of less, no cycle marking should be included, even though the street may welcome bikes.

- These measurements should be taken after any one-way streets are converted to two-way traffic and, again, demand that on-street parking remains on both curbs.



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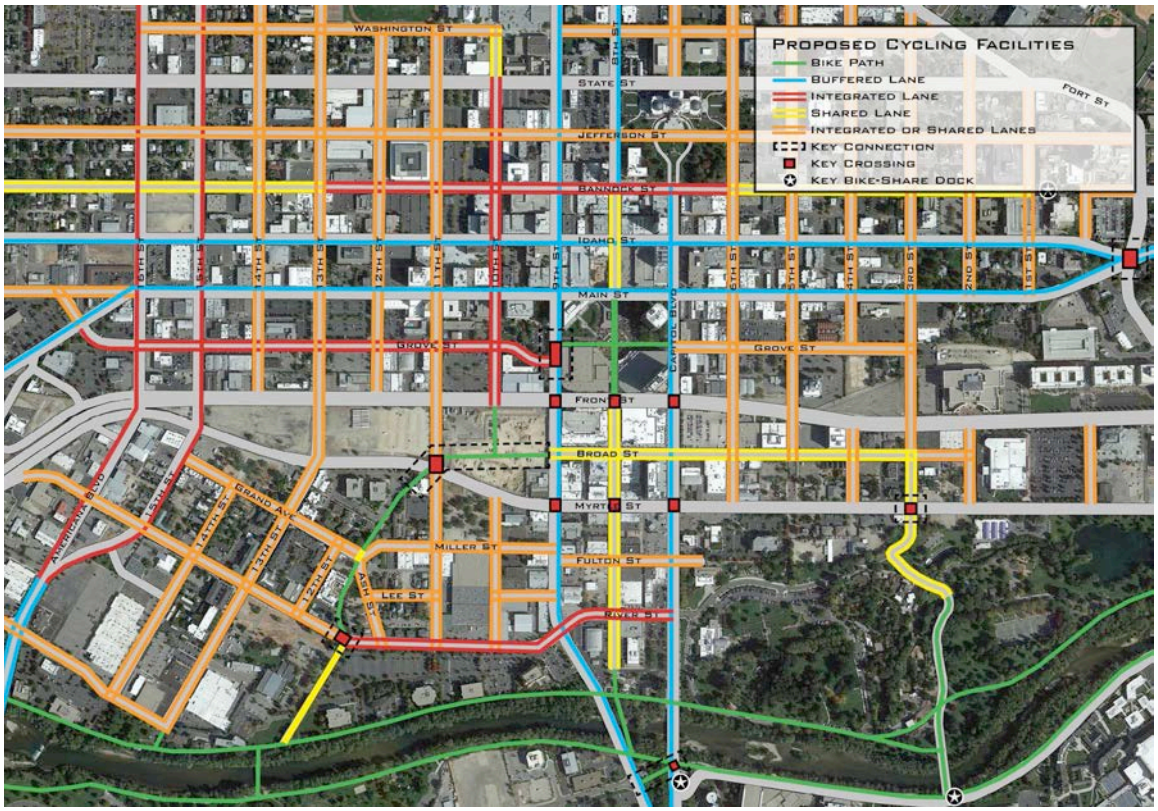


*The overall bike plan shows in orange, the remaining bikeable streets that receive either Integrated Lanes, Sharrows, or no markings whatsoever, depending on the amount of pavement available.*

The above regime of striping is designed to welcome cyclists appropriately onto the streets where they fit, and to reduce the number of speeding drivers. These orange streets are less important than the others, but they collectively form an important part of a comprehensive downtown cycling plan.

The plan does not address bike racks, which should be scattered comprehensively in response to demand. There are many complaints about a scarcity of racks, so it is recommended that an independent "seek & provide" plan be pursued to locate new racks where cyclists can be seen locking their bikes to street signs and other such objects.

***This revised cycling plan is presented as the second Specific Recommendation of this report.*** Compared to the plan currently underway, it has advantages and disadvantages. The advantages are that it is fully in keeping with current cycling best practices recommending buffered lanes; that it calms traffic on some of the most inhospitable streets in downtown; that it avoids eliminating on-street parking; and that it allocates lower-priority cycle facilities in a way that promotes safer driving on all streets. Its disadvantages are that it overrides many features of a Downtown Implementation Plan that represents a great deal of time and effort; and that it has not been subject to the same public outreach process as that Plan.



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There is no solution to the first disadvantage, except to apologize. The second disadvantage can be overcome easily by mounting a quick public outreach effort in which citizens are able to compare the two competing proposals and voice an opinion. It is hoped that the advantages of this proposal are deemed sufficient to mandate such an effort.

**The Transit Hub**

An effort to move the transit hub away from its current location, on Idaho and Main, has been underway for several years now. This effort is well founded: the current condition is clearly detrimental to the health of downtown, for several reasons, including:

- Idaho and Main are the two prime shopping streets in downtown, and should be configured in a way that supports this activity.

- The presence of many buses sitting for long periods of time against the curb, whether idling or not, makes the environment less pleasant, and blocks shopfronts from view, and makes sidewalk dining unsupportable.

- The absence of parallel parking along these same curbs inhibits the capacity of shops to succeed. Most retailers demand curb parking, and a number of shop leases in this area have fallen through due to its lack.

- The absence of parallel parking makes these sidewalks feel unprotected when no buses are present.

- The presence of bus lanes in the absence of buffered bike lanes makes biking feel unduly hazardous on these streets, leading cyclists to ride on the sidewalk, further intimidating pedestrians.

Given all of these factors, there is every reason to expect that relocating the transit hub will be extremely beneficial, and should be considered a high priority. Recent news suggests that a new location has been found, underneath the Grove, which seems a fairly ideal spot. All efforts should be made to secure this outcome. But, if for some reason it fails, a new location should be found that takes the bus staging away from storefronts.

There are many block faces downtown that could accept the bus staging without impacting businesses. For example, both Capitol Avenue in front of City Hall and 9th Street just south of Main contain ample room, with no shops present. It has been suggested that an earlier study ruled out those locations. That study is worth revisiting, but so is the question of whether there are not some other non-retail curbs in the heart of the downtown that could take on the role currently being played by Idaho and Main. It is worth noting that the current configuration of buses takes up less than two full blocks of curb face -- about 500 linear feet.



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***Whatever the solution, relocating the transit center to a place where it does not sunder commercial activity is the third Specific Recommendation of this report.***

**Parking Policy**

Parking covers more acres of urban America than any other one thing, yet until about a decade ago, there was very little discussion about how parking could be managed for the benefit of a city. Thankfully, due to the work of Donald Shoup, Ph.D, the author of *The High Cost of Free Parking*, there is now a comprehensive set of practices that cities can undertake to ensure that downtown parking works to make downtown more attractive, more convenient, and more successful.

These practices, which Shoup organizes as a three-legged stool, consist of the following: eliminating the on-site parking requirement, and addressing downtown parking supply collectively; charging market-based prices for parking; and reinvesting increases in parking revenue in the very districts where that revenue is raised. We will address each of these concepts briefly.

***Collective Parking Supply***

Like many thoughtful cities, Boise has eliminated its on-site parking requirement downtown and addressed parking collectively, principally through the provision of City-owned parking structures. These lots, in conjunction with the on-street parking supply, do a good job of handling the demand for parking downtown. Since Boise is already up to speed on this approach, there is no need to discuss its benefits; the full argument can be found in *Walkable City*. Current vacancy rates in downtown lots suggest that no new structures are needed in the near future, although better wayfinding to and from the existing supply would be helpful.

***The Right Price***

Where Boise falls behind other cities is in the pricing of its parking. The current regime seems to be working against the success of downtown, in that it encourages overcrowding at curbs and driver circling during times of peak demand. This outcome is the result of curb parking that is, at times, priced too cheaply in relation to parking in the public structures. This artificially low price drives up demand for the type of parking that is already hardest to find, short-circuiting the free-market functionality that would otherwise allow people to make smart choices about where to park. The result is a scarcity of the underpriced good (curb parking), perceptions of inconvenience among potential shoppers, and an underutilization of the City's investment in its parking structures.

As described by Shoup, the proper price for curb parking is the price that results in a steady availability of one empty parking space per curb face at all times, an occupancy rate of approximately 85 percent. At times, this occupancy can be achieved with a price of $0, but at other times the price must rise significantly to assure that "Daddy Warbucks


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can always find a spot near the furrier." This outcome can be often be achieved without elaborate or expensive congestion pricing devices, such as the system recently installed in San Francisco: often, the price need only change once or twice a day.

Raising the price of parking is never popular—raising the price of *anything* is unpopular—but it is a condition of efficient markets that prices rise and fall with demand. Setting artificially low prices based upon the perception of a social mandate is an approach perhaps best described as *Soviet.*

Cities would do well to remember that they build downtown parking structures for the convenience of downtown visitors. They owe these visitors a place to park, perhaps, but they do not owe them a place on the street, when the lots are well located, as they are in Boise.

Often, it is the downtown merchants who fight most ardently against increased meter rates. Their opposition is based on an instinctive fear that shoppers will be scared away, and their sales will suffer. Fortunately, this fear has no theoretical basis and no evidence to support it. In city after city, the business-owners who fought the loudest against market-based pricing were among the first to admit that, once instituted, it increased their sales dramatically. The parking meter was invented, after all, to help businesses—by increasing shopper turnover—and an underpriced parking meter is not being allowed to do its job.

***Parking Benefit Districts***

This third leg of Shoup's stool can often be what it takes to win over reluctant merchants. It is only fair, and beneficial, to take the extra meter money raised in a popular shopping district and reinvest it in that district itself. In addition to improving sidewalks, trees, lighting, and street furniture, these districts can bury overhead wires, renovate storefronts, hire public service officers, and of course keep everything clean. As has been demonstrated in Pasadena and elsewhere, these districts can initiate a virtuous cycle where parking demand begets an improved public realm, which in turn begets even greater demand.

If the supply and management of parking in downtown Boise is going to work to the benefit of downtown Boise, then a commitment to the above three basic principles of parking policy must explicitly guide City efforts. ***Such a commitment is the fourth Specific Recommendation of this report.***



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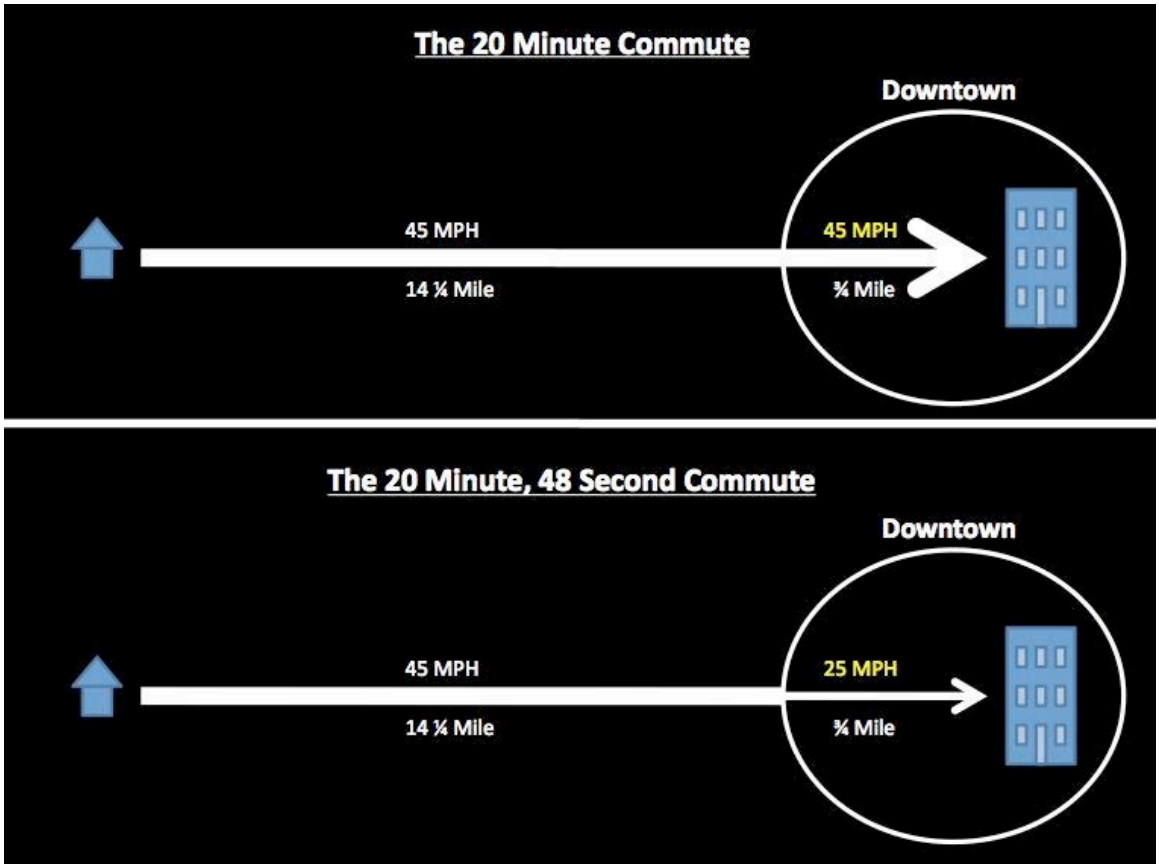
**Speed/Signal Policy**

Street life is dramatically impacted by the speed of vehicles. Whether they know it or not, most pedestrians understand in their bones that a person hit by a car traveling at 35 mph is ten times as likely to die than if the car is traveling at 25 mph. Any community that is interested in street life—or human lives—must carefully consider the speed which it allows cars to drive in places where pedestrians are present.

And in most American cities, the place where pedestrians are most likely to be present is the downtown. Acknowledging this fact opens up real possibilities, as it allows us to have dramatic impact on walking while impacting driving only minimally. By focusing on vehicle speeds in downtown, we can make walking safer for the most pedestrians with the least amount of driver inconvenience.

The illustration below tries to make this point clear. It shows how the difference between an attractive and a repellant downtown may be less than a minute of drive time. Would most people be willing to spare 48 seconds each day if it meant that their city was a place worth arriving at? Probably.




*This diagram from the engineering firm AECOM describes how a significant change in downtown speeds typically results in a minimal change to commute times.*



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In the case of Boise, the number is considerably smaller. The truly walkable part of downtown is only about a half-mile across, in either direction. A 10 mph reduction in driver speed, from 35 to 25, across this distance, translates into a difference of just 21 seconds. Given this tiny number, can a 35 mph speed limit, so dangerous to pedestrians, be justified? To forego a safe and inviting downtown for a piddling 21-second savings seems a poor bargain indeed.

The above logic explains why a growing number of cities have instituted "20 is Plenty" ordinances in their downtowns, and a few have even settled on 18 mph as the target speed. In the interest of compromise, this report recommends the institution of a 25 mph speed limit for the potentially walkable sector of downtown, essentially bounded by BSU, Washington Street, 13th St, and 3rdst Street. As discussed, lowering speed limits are only the half of it. The more important step is to engineer the streets for the desired speed, which means outlawing wider lanes and other inducements to speeding.

The easiest mandate in this regard pertains to the timing of "green wave" signal cycles on the downtown's many one-way pairs. An unscientific test of Front & Myrtle, Capitol & 9th, Idaho & Main, and elsewhere, suggests that it is possible on many of these streets to ride a wave of green lights at speeds close to 35 mph. Adjusting the timing on these signals to proscribe speeds above 25 would go a long way towards improving the safety and appeal of downtown.

***A universal 25-mph speed limit in the heart of downtown, with signal timing adjusted accordingly, is the fifth Specific Recommendation of this report.***


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## PART III: STREET REDESIGN

### A Strategy for Street Redesign

By the reasoning already put forward in this document, almost every street in downtown Boise is in need of a redesign. This assessment is presented with an understanding that changes to streets often come slowly and sometimes at considerable expense. But they do come—routine deterioration demands resurfacing, which offers the opportunity to restripe—and sometimes a proper understanding of the value of safer streets causes them to come more quickly. Furthermore, a protocol which focuses on restriping rather than rebuilding, like the one that follows, can allow for dramatic change to occur at a reasonable cost.

Before making specific recommendations, it may be useful to quickly lay out some of the theory that underlies the approach taken here. This approach can be summarized under four headings: *Induced Demand, Peak VMT, Induced Speeding,* and *The Network.*

#### *Induced Demand*

While entire books now explain and document the phenomenon, few public works agencies make daily decisions as if they understand Induced Demand. As explained by the First Law of Traffic Congestion, efforts to combat traffic congestion by increasing roadway capacity almost always fail, because, in congested systems, the principal constraint to driving is the very congestion that road-builders hope to eliminate. Studies nationwide document how "metro areas that invested heavily in road capacity expansion fared no better in easing congestion than those that did not. . . areas that exhibited greater growth in lane capacity. . . ended up with slightly higher congestion. . ." despite paying more to relieve it (Surface Transportation Policy Project, Washington, DC).

Because road-building does not typically decrease congestion, cities that wish to cut traffic are told to invest not in wider streets, but in improving their jobs-housing balance. In places like Boise, achieving that goal means making downtown more attractive to residents, a goal that would mandate more walkable streets, not wider ones. This report does not try to be ambitious in this regard. It does not reduce the capacity of any street below what that street is currently holding. But it insists that at no point should preserving the opportunity for increased capacity be considered a viable strategy for avoiding future congestion.

#### *Peak VMT*

The mandate to avoid investments in increased capacity is only strengthened by the discovery that, in most American metro areas, the amount of driving is on the decline. While figures are not available for Boise, the data for Idaho shows that, statewide, Vehicle Miles Traveled per person actually peaked in 1999—almost a decade ahead of the national average—and has declined fully 10 percent since, from 11,171 miles to 10,055. This decline can of course be offset by population increases, but with an



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important exception: cities that improve their jobs/housing balance can grow significantly while still reducing their driving. For example, in Washington DC between 2005 to 2009, as the District's population grew by 15,862 people, car registrations fell by almost 15,000 vehicles.

Since this report focuses on bringing more housing, not jobs, to its downtown, there is every reason to expect that following its recommendations will lead to a reduction in downtown driving. That said, there are still reasons to anticipate some congestion. There is some real logic behind the humorous suggestion that, the more walkable a place becomes, the more people will want to drive to it. However, the experience of Peak VMT makes it clear that any traffic study that includes a "background growth" factor in its assumptions needs to be seriously questioned.

***Induced Speeding***

As already discussed, the new science of traffic engineering—as opposed to the old mythology of traffic engineering—maintains that excess lanes, wider lanes, clear zones, and other reductions in the potential for conflict actually encourage speeding and increase the danger of driving in cities. This may not be the case on highways, where most drivers travel at a set velocity based on speed limits, but it is most certainly true in downtowns, where the principal determinant of driver speed is the perception of safety.

The mandate of the above paragraph could not be more profound. For years, American traffic engineers, applying the logic of highways, have widened travel lanes, broadened sight-triangles, and even removed trees from city streets. The studies now show that this was a mistake. One study found that fewer injury crashes occur on streets with trees. Another estimated that "increased lane widths are responsible for approximately 900 additional traffic fatalities per year." (Robert Noland, "Traffic Fatalities and Injuries: The Effect of Changing Infrastructure and Other Trends," Center for Transport Studies, 2002.) If safety is a concern of those who build and maintain our city streets, then they can no longer allow a 12-foot lane to sit where a 10-foot lane will serve.

***The Network***

For roughly forty years, the dominant ideology of roadway planning was to eschew street networks in favor of *dendritic* (branching) systems. In such systems, which characterize suburban sprawl, parking lots and cul-de-sacs lead to collectors, which lead to arterials, which lead to highways, and there is typically only one efficient path from any one destination to any other. We now know that these systems present many disadvantages to the traditional network alternative, principal among them their inflexibility. A single engine fire on an arterial can bring an entire community to a halt.

The inflexibility of these dendritic systems has led to a general tendency within the traffic engineering profession to think of networked systems as being considerably less flexible than they truly are. Often, each street is considered individually, with little attention paid to the fact that, within a grid, traffic can easily switch from street to street in response to


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congestion. Remembering this fact—that each car within a grid is an "intelligent atomic actor" maximizing its utility at every corner—allows us to manipulate networked street systems with much greater freedom than we would have in dendritic sprawl. Gridded streets can and do absorb each other's traffic every day, something we see clearly when one street is narrowed or closed for repairs.

The analysis and recommendations that follow, for simplicity's sake, do their best to ensure that each street, individually, will continue to meet the travel demand on it. But, in considering these recommendations and any others that arise from this report, it will be important to not forget that parallel streets are typically available to ease the pressure on busy streets.

Because they are so essential to understanding and allowing for the recommendations that follow, the above four discussions are worth calling out for specific endorsement before turning to the mandate that they create. ***For that reason, the sixth Specific Recommendation of this report is that the leadership of the Ada County Highway District, the Idaho Transportation Department, the City, and the Capital City Development Corporation collectively acknowledge and endorse the concepts of Induced Demand, Peak VMT, Induced Speeding, and The Network.***

Such an endorsement is not intended to be taken lightly, as these four concepts run counter to the way that transportation planning has been practiced in most American cities for several generations. The evidence, however—compiled in part in *Walkable City*—suggests that these concepts are correct. That said, it is perfectly reasonable to dispute them, and questioning is welcome. What is most important is that, if these concepts are to be rejected, leading to the rejection of the recommendations that follow, this rejection should be made publicly and supported by evidence of high quality.

**The Right Number of Lanes**

With the concepts of Induced Demand, Peak VMT, Induced Speeding, and The Network under our belts, we can now address the challenge of properly striping Boise's downtown streets. These four concepts tell us, collectively, that:

- We need not and indeed should not provide more lanes than the amount needed to satisfy the current volume of traffic;
- We should provide lanes that are no wider than the FHWA-approved ITE/CNU standard;
- We should provide shoulders only in extreme conditions; and
- We should always consider the network collectively in our calculations.

These assumptions lead to the following straightforward, five-step exercise:

1. Determine the current Supply of lanes in the downtown.
2. Using peak-hour traffic counts, determine the current Demand for lanes in the downtown.
3. Determine where Supply exceeds Demand, yielding Oversupply.



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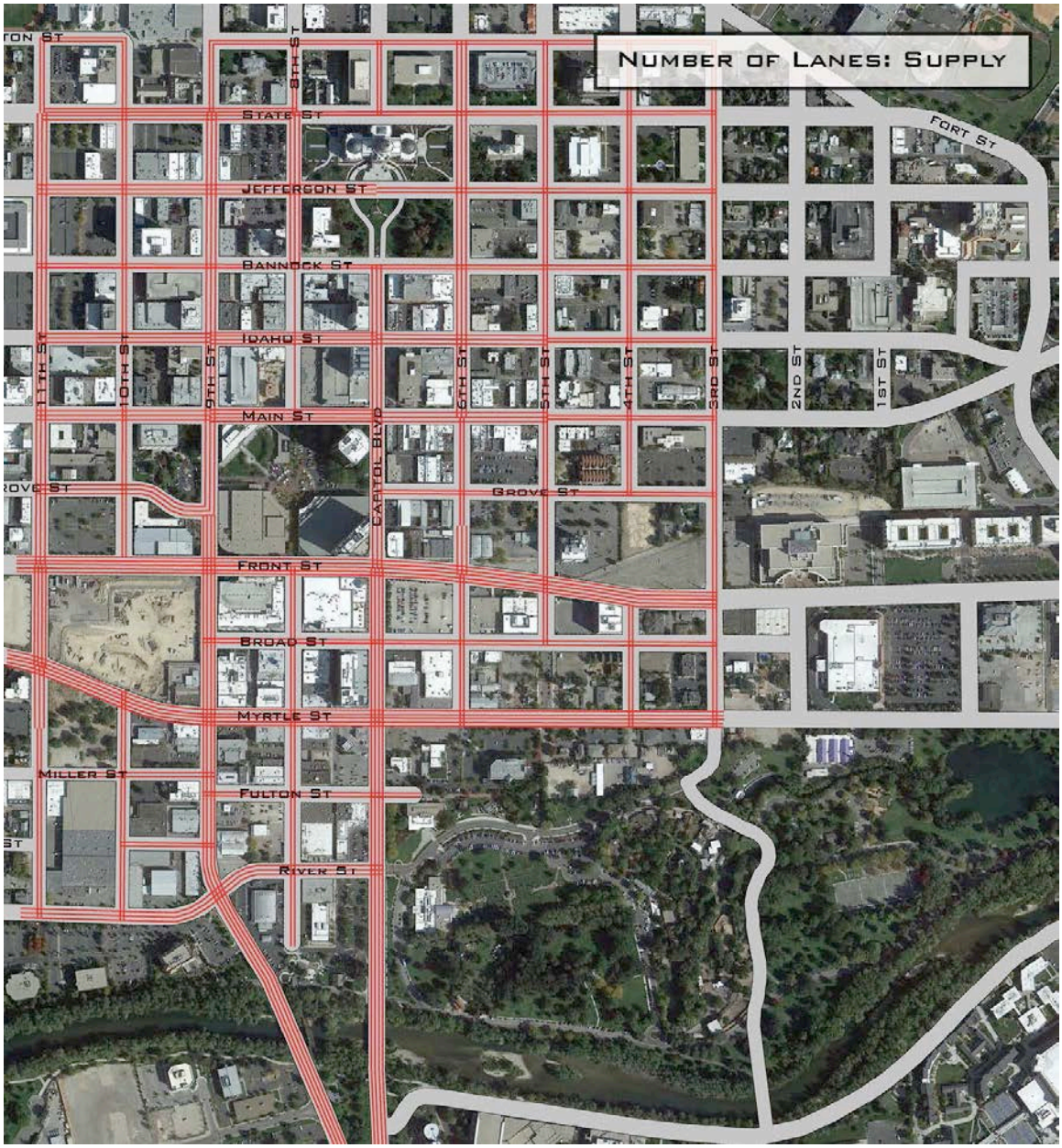
4. Determine additional Excess Pavement found in over-wide lanes and shoulders.
5. Add Excess Pavement and Oversupply, yielding the Total Available Extra Pavement.

This final figure, Total Available Excess Pavement, is the number of lanes in each street that should be converted to non-driving use in order to maximize the efficiency and the safety of the road network.




*Each downtown street contains between two and five travel lanes.*

The first diagram, above, is the Supply of lanes on streets in the downtown core. It merely counts the number of travel lanes marked along each street segment.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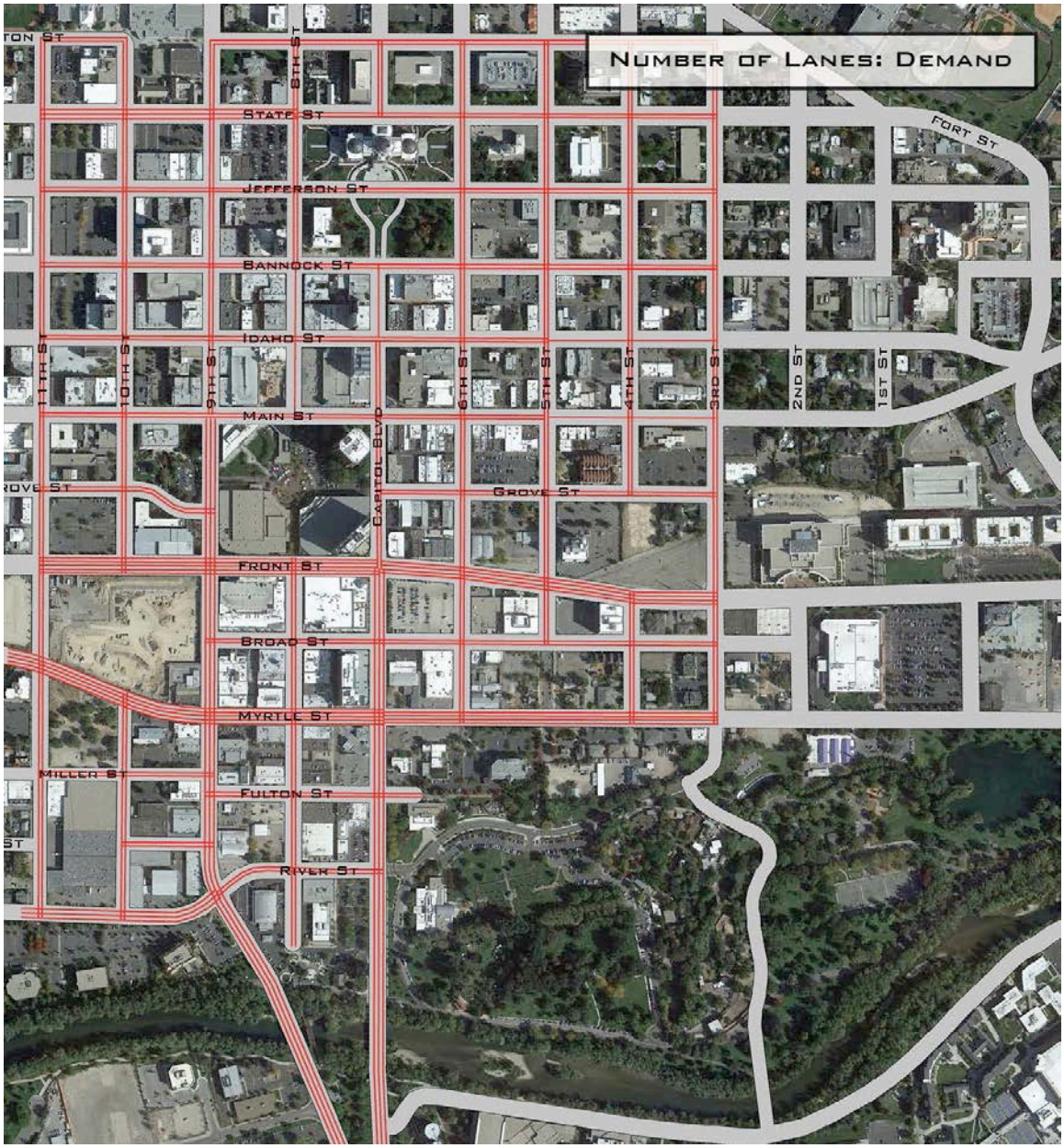
The second diagram indicates the current Demand on all downtown streets, in terms of lanes of travel. This Demand is calculated very carefully, based on best-practices assumptions about how many peak-hour trips a single lane of traffic is able to accommodate. As provided by transportation planners and traffic engineers at AECOM and Nelson/Nygaard Associates, these assumptions are as follows:

- A single well-networked lane within a one-way street can comfortably handle 800 peak hour trips.
- A single well-networked lane within a two-way street can comfortably handle 650 peak hour trips.




*The Demand for lanes downtown approaches but, in many cases, does not match the Supply.*



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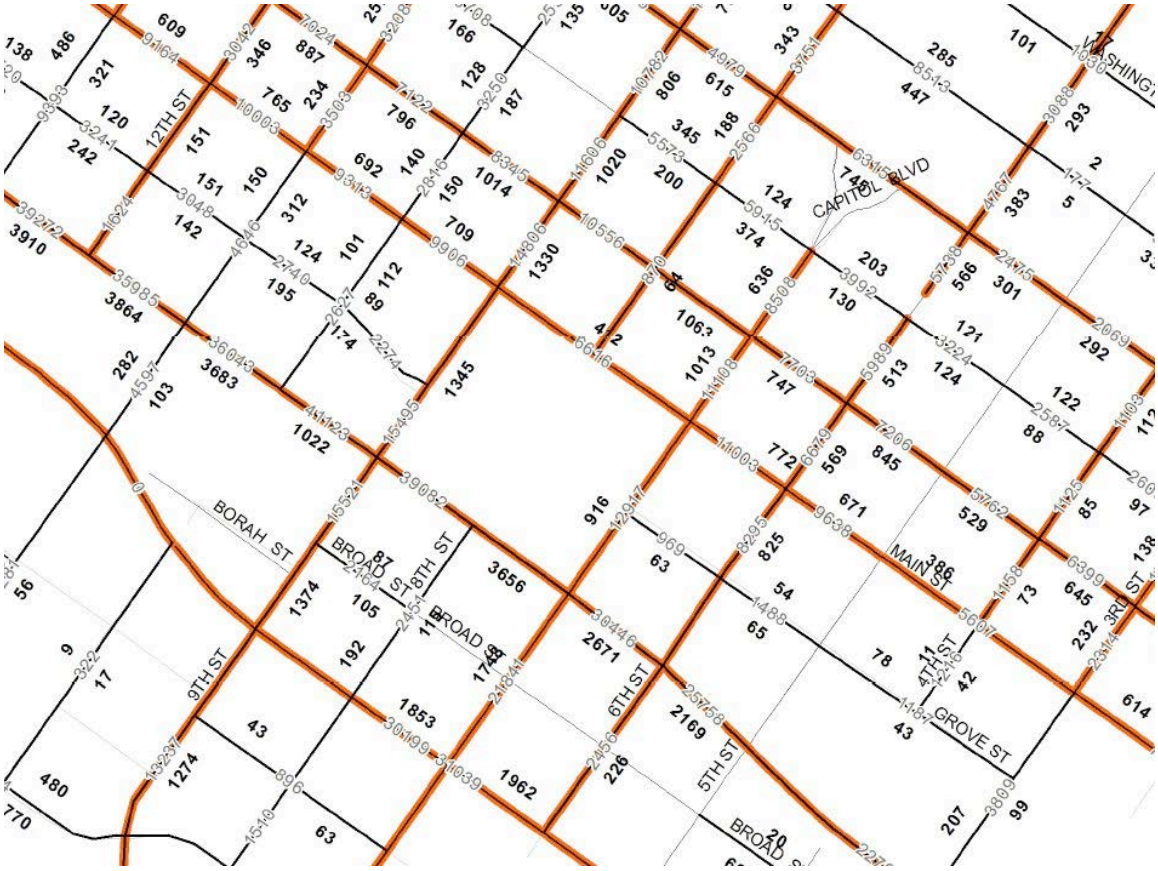
Just to be especially conservative—and to allow for the impacts of parallel parking and other factors—this second diagram has reduced those assumptions by 10 percent, to 720 and 585, respectively. By dividing the measured peak-hour trips by the applicable number, we are able to determine the number of lanes that are needed to meet Demand.

It is useful to consider the document on which this diagram is based, the most recent compilation of traffic counts for downtown. In this document, daily counts along each street segment are shown in gray, and peak hourly counts are shown in black. The veracity of the 800-cars-per-hour measure is evident as one considers Front Street west of 12th, where five lanes handle over more than 3,900 trips during peak hour. (3,900 trips divided by 5 lanes equals almost 800 trips per one-way lane.)



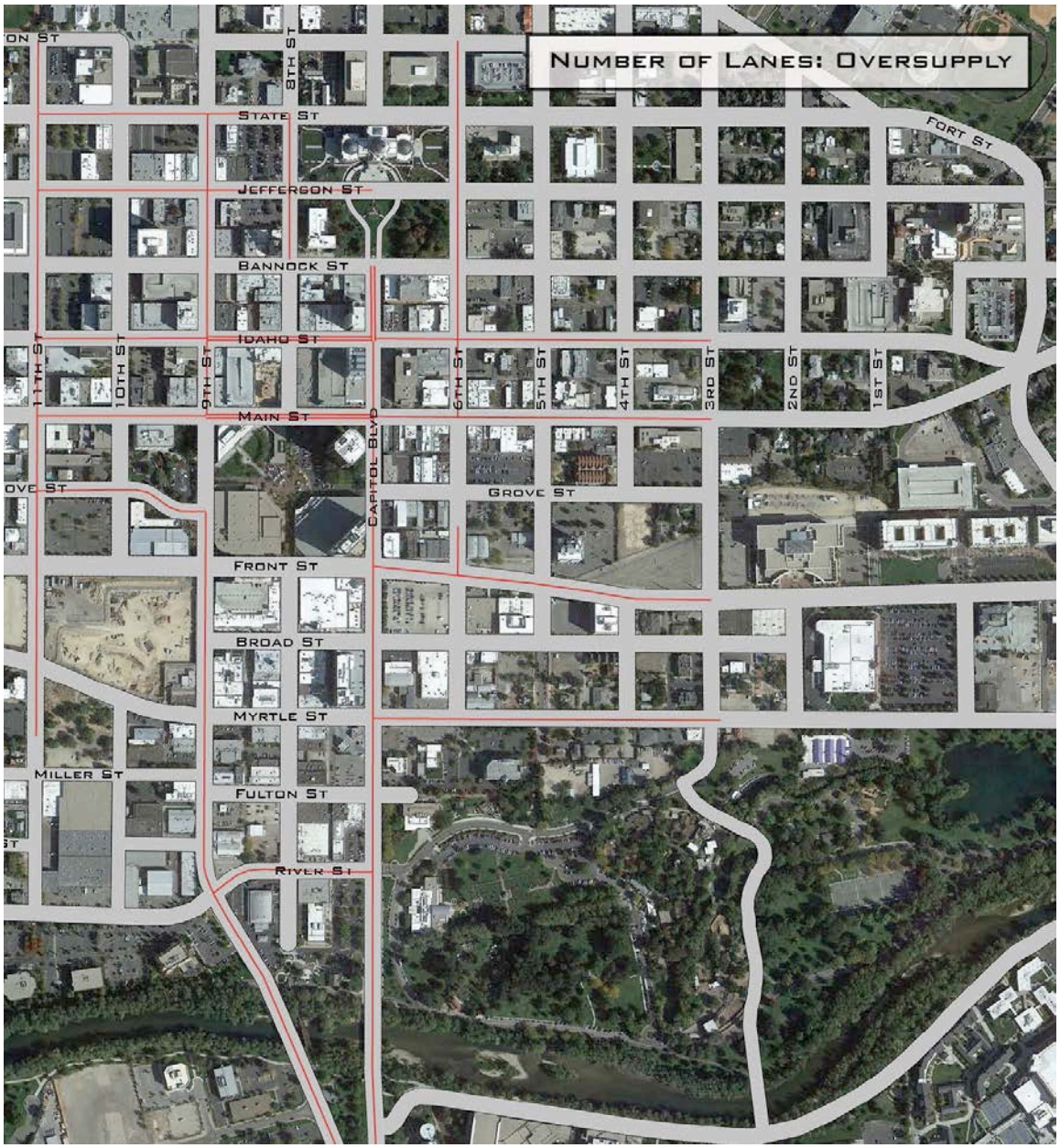

*Peak-hour traffic counts (in black) suggest the number of lanes that are needed to handle Demand.*

This diagram clearly shows which street segments are experiencing traffic loads that require them to be more than two lanes—very few—and how many street segments would actually be served by a single lane of through traffic… not that that approach is recommended for downtown.

The next step is to compare the Demand diagram to the Supply diagram, to observe the disconnect. Unsurprisingly, no street segment has more Demand than Supply; the logic of the Network suggests that those trips would find alternative paths within the grid, to avoid congestion. But many streets have considerably more Supply than Demand. This

fundamental disconnection, quite stark in places, represents a hidden cache of asphalt capital that can effectively fund the city's evolution into a walking and biking mecca.

The disconnection between Supply and Demand is illustrated in the diagram ahead. Ignoring other factors, these are the number of lanes available for other use. As discussed, this use could include parking lanes, cycle facilities, or both. Streets with excess supply along at least some of their length include Front & Myrtle, Capitol & 9th, Idaho & Main, Jefferson, State, 6th, and 11th.




*Indicated in this diagram are the locations where lane Supply exceeds traffic Demand.*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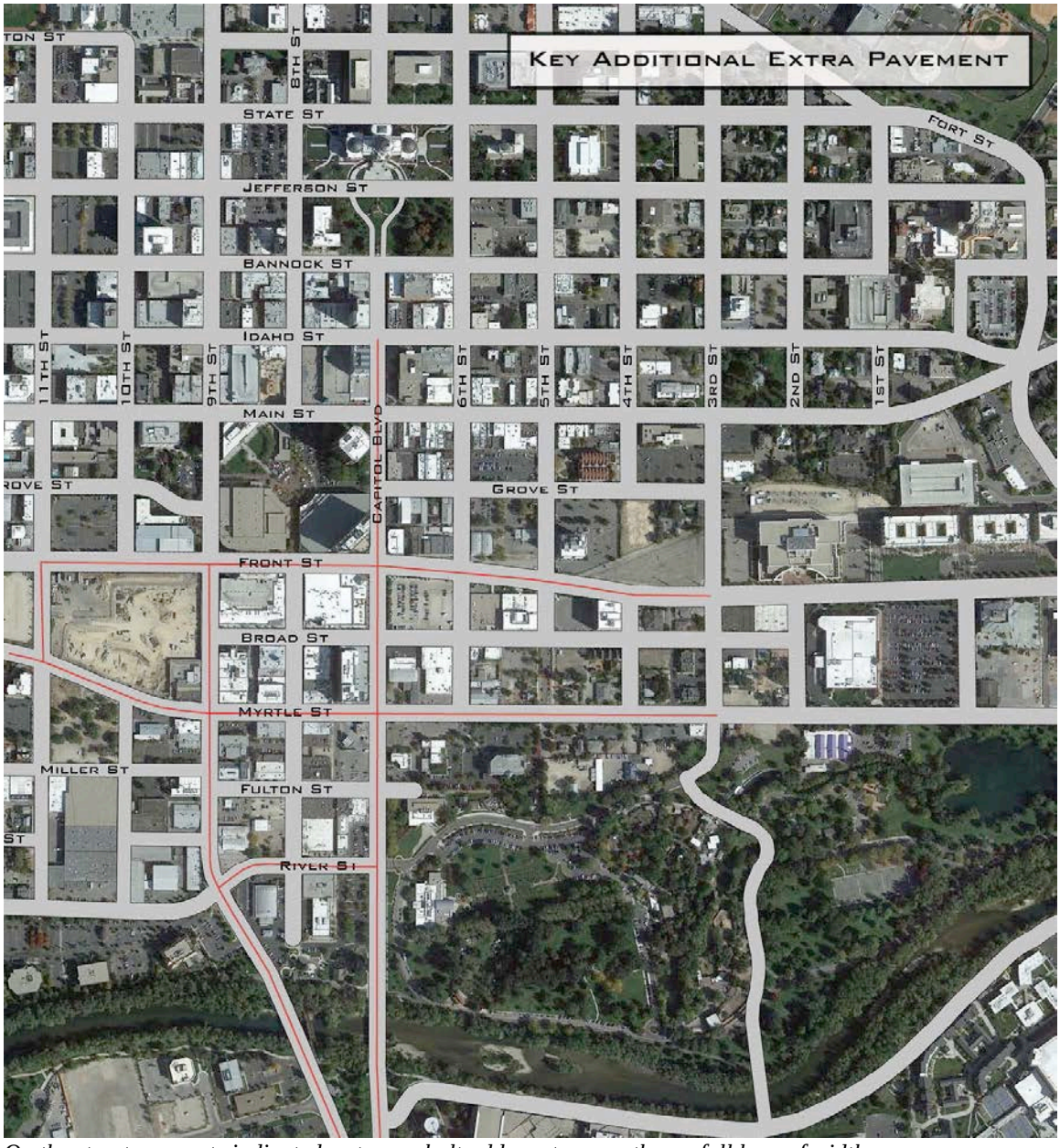
But there's more. Shown here are those locations where additional asphalt is being wasted on over-wide lanes and shoulders that provide no additional capacity while only encouraging speeding. These are principally Front & Myrtle, and Capitol & 9th, where lanes in some cases reach 15 feet in width. Other streets also contain extra pavement, but the streets that are shown are the only ones where that extra pavement, when added together, constitutes a full lane or more in width.




*On the street segments indicated, extra asphalt adds up to more than a full lane of width.*

Adding this diagram to the one before it, we come up with the Total Available Extra Pavement, illustrated in the final diagram ahead. This diagram is the key document for allowing—and one hopes, mandating—the types of redesigns laid out in the pages that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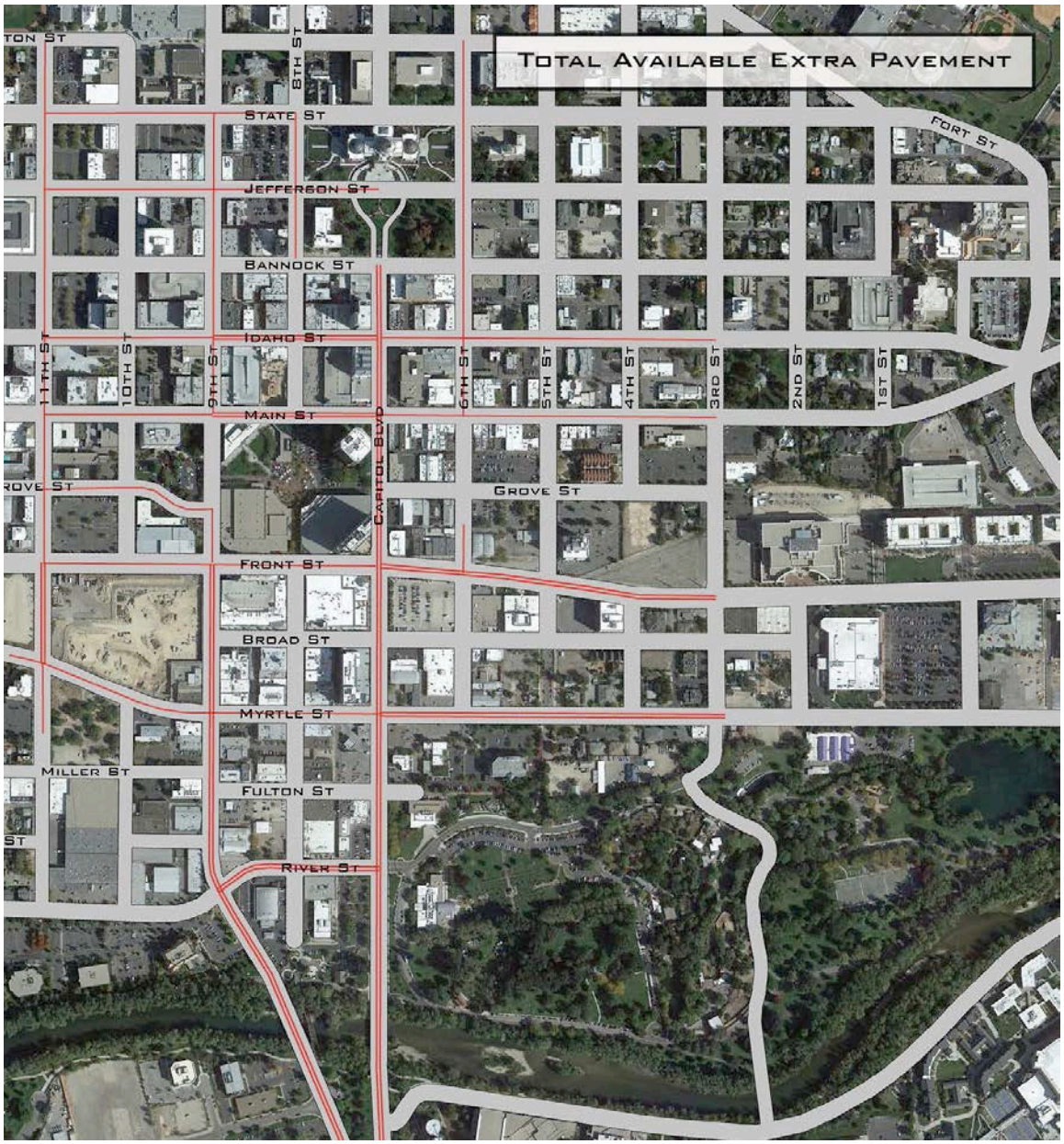
follow. It shows, remarkably, that many of the busiest and speediest streets in the downtown core contain more than two lanes of wasted, speed-inducing asphalt.




*Each red line in this final diagram indicates a lane's worth of asphalt that can and should be put to alternative use.*

The mandate implied by the above diagram is clear. We know that additional, unnecessary pavement invites driving trips that might not occur otherwise (Induced Demand). We know that this pavement is not needed for future growth (Peak VMT). We know that this pavement encourages speeding, making all users of the road less safe (Induced Speeding). And we know that the forgiving nature of the grid allows those streets that are currently under capacity (most of them) to absorb any congestion that otherwise might have the potential to occur when this pavement goes away (The



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Network). ***Therefore, the seventh Specific Recommendation of this report is to right-size Boise's downtown network by restriping all oversized downtown streets to contain the number of lanes that satisfies the demand upon them.***

Restriping streets takes money. While downtown would benefit from all of these streets being restriped immediately, it is understandable that such a change might take some time. However, it would be wise to have a plan in place and a commitment to that plan into the future. Such a plan would give citizens an understanding of what to expect, and protect against goals being forgotten.

Additionally, it should be noted that, when a two-lane, two-way street meets another two-lane, two-way street, it is often best to manage that intersection with a four-way stop sign rather than with the street signals that are necessary in most other conditions. Each signalized intersection typically costs about $150,000 to replace, and all need replacement eventually. The savings in signals implied by the changes suggested in this report could, in the long run, pay a good part of the cost associated with the restriping recommended here.

The pages that follow include recommendations for restriping most of the streets in the downtown core. These designs should be understood as potentially ideal outcomes of the strategy described above. It is important to stress that the outcomes are optional, but the strategy is mandatory if we are to achieve the objectives of this study. There are other paths to the same end. That said, the proposals that follow are presented with a confidence that they are likely to be the best among competing alternatives for catalyzing the transformation of downtown Boise into a truly walkable and bikeable destination.



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**Downtown North-South Thoroughfares**

***North Capitol Boulevard (From the Boise River to Front Street)***

Current Condition

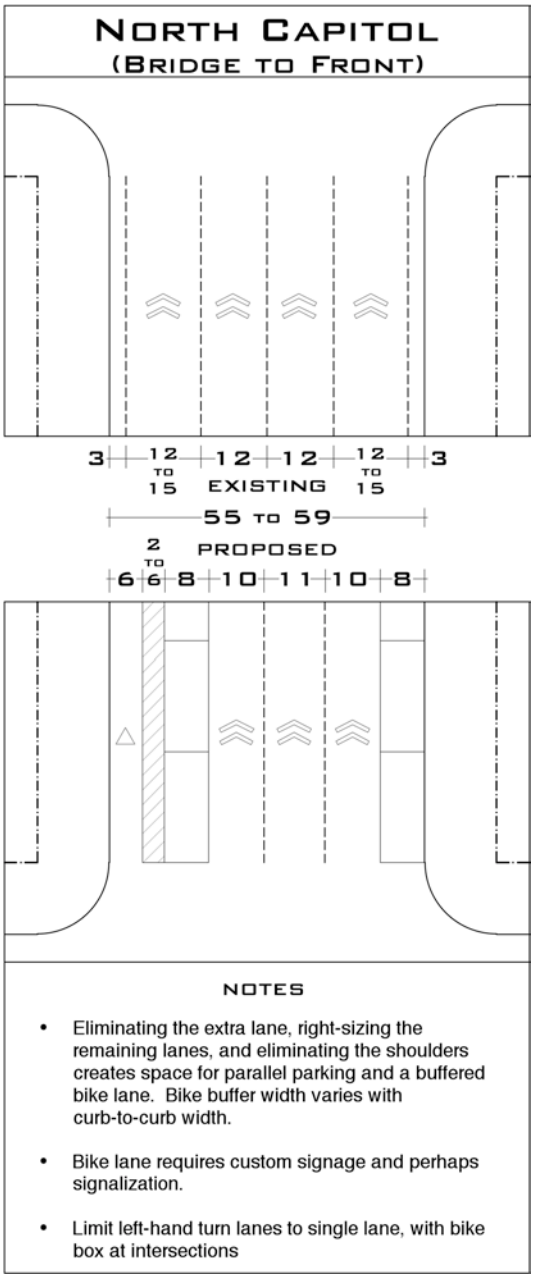
In this location, North Capitol is one-way and contains four travel lanes, each 12 to 15 feet in width, and two 3-foot shoulders. There is no parallel parking. Signals may be timed for 35 mph.

Analysis

Two-way conversion is possible, but is not recommended due to heavily-trafficked Front & Myrtle intersections. Traffic volumes almost allow for a reduction to two lanes, but a conservative reduction to three is requested instead. 12-to-15-foot lanes invite speeding, as do shoulders, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. The absence of parking makes sidewalks vulnerable. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation

Restripe to provide three 10-to-11-foot travel lanes, two 8-foot parking lanes, and a 6-foot buffered bike lane. The bike lane buffer varies in width from 2 to 6 feet based on the varying width of the roadway. Adjust signal timing to 25 mph. Limit double-left hand turn lane at Myrtle Street to a single lane. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," ahead, for details.)



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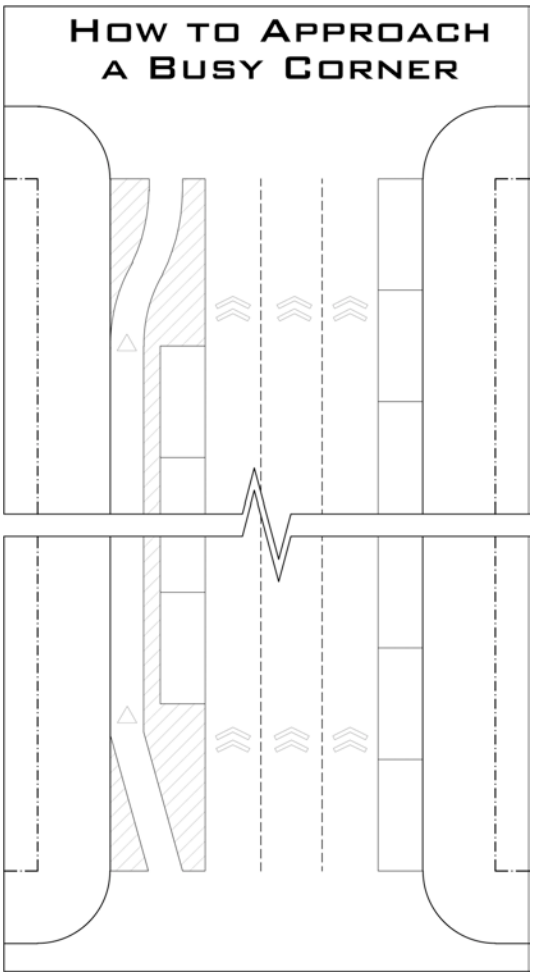
***Additional Note for Buffered Bike Lanes***

Due to space limitations, the drawings provided here do not show the proper deflection that buffered bike lanes take at corners to improve cyclist visibility. The illustration at right shows how the bike lane swings into the parking lane zone in order to not be hidden from cars turning left at the intersection.



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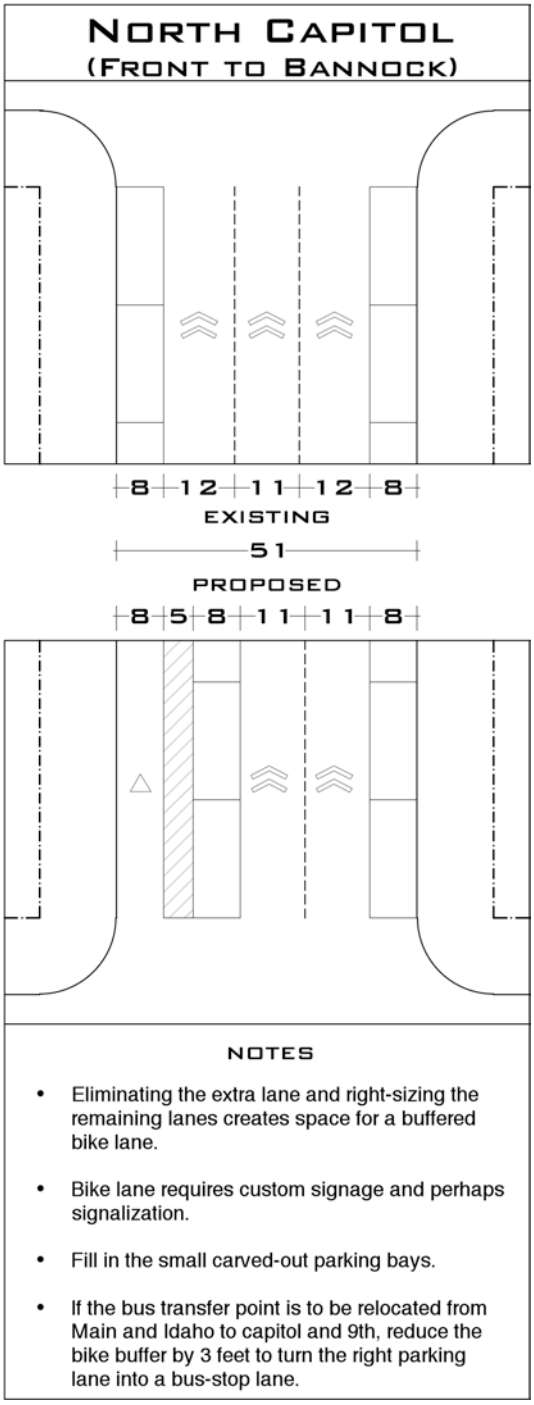
***North Capitol Boulevard***
***(From Front Street to Bannock Street)***

Current Condition
In this location, North Capitol is one-way and contains three 11-to-12-foot travel lanes and two 8-foot parking lanes. Signals may be timed for 35 mph.

Analysis
Two-way conversion is possible, but is not recommended due to cycle facility opportunities that arise from the one-way condition. Traffic volumes allow for a reduction to two lanes. 12-foot lanes invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation
Restripe to provide two 11-foot travel lanes, two 8-foot parking lanes, and an 8-foot bike lane with a 5-foot buffer. (This bike lane and buffer are wider than necessary, in order to use up excess street width.) Adjust signal timing to 25 mph. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," for intersection details.)





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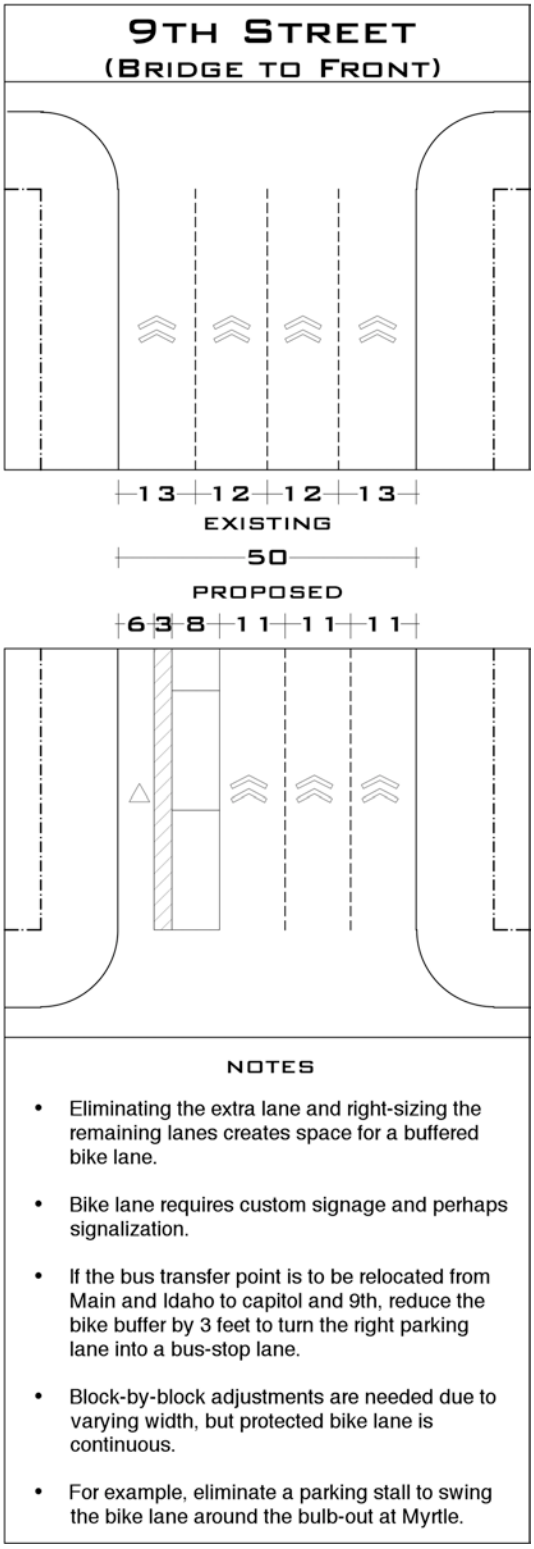
***West 9th Street***
***(From Boise River to Front Street)***

Current Condition
In this location, North Capitol is one-way and contains four 12-to-13-foot travel lanes. Signals may be timed for 35 mph.

Analysis
Two-way conversion is possible, but is not recommended due to heavily-trafficked Front & Myrtle intersections. Traffic volumes allow for a reduction to two lanes, but a conservative reduction to three is requested instead. 12-to-13-foot lanes invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. The absence of parking makes sidewalks vulnerable. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation
Restripe to provide three 11-foot travel lanes, one 8-foot parking lane, and a 6-foot bike lane with a 3-foot buffer. Adjust signal timing to 25 mph. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," for intersection details.) Briefly remove parking lane where needed to skirt existing bulb-outs.





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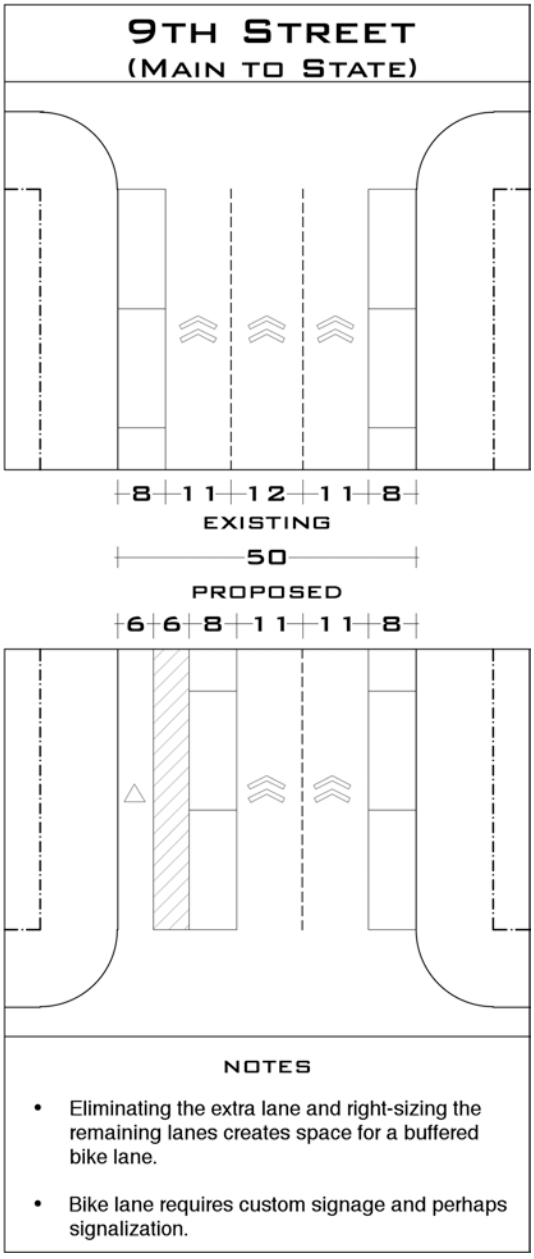
***North Capitol Boulevard***
***(From Main Street to State Street)***

Current Condition
In this location, North Capitol is one-way and contains three 11-to-12-foot travel lanes and two 8-foot parking lanes. Signals may be timed for 35 mph.

Analysis
Two-way conversion is possible, but is not recommended due to cycle facility opportunities that arise from the one-way condition. Traffic volumes allow for a reduction to two lanes. The 12-foot lane invites speeding, and is wider than the standard approved by the *ITE/CNU Street Design Manual*. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation
Restripe to provide two 11-foot travel lanes, two 8-foot parking lanes, and an 8-foot bike lane with a 5-foot buffer. (This bike lane and buffer are wider than necessary, in order to use up excess street width.) Adjust signal timing to 25 mph. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," for intersection details.) Briefly remove parking lane where needed to skirt existing bulb-outs.





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***West 8th Street***

Current Condition

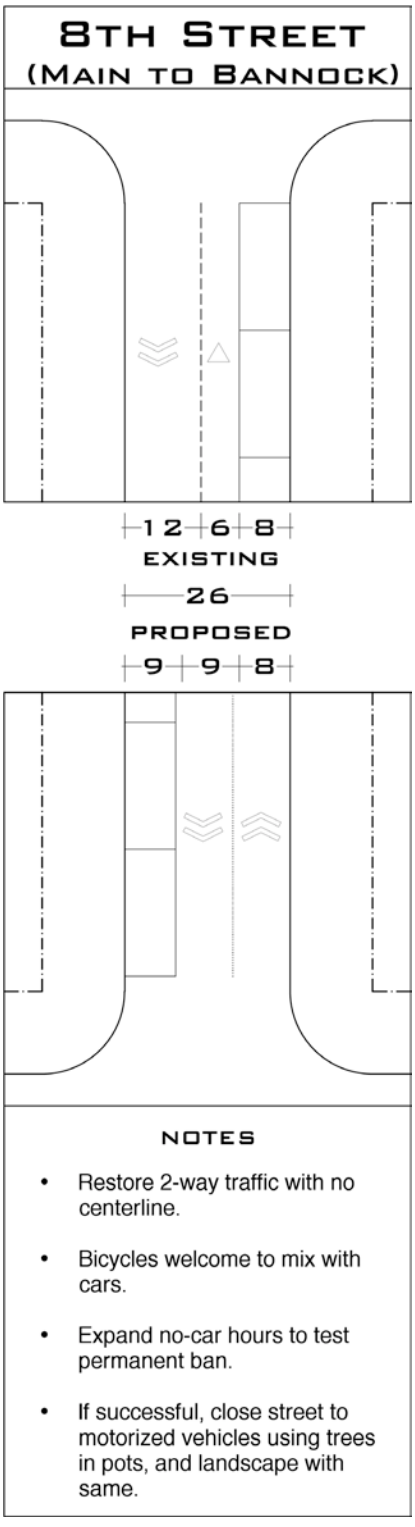
Between Main and Bannock Streets, 8th Street contains a single southbound travel lane separated from an 8-foot parking lane by a 6-foot counterflow bike lane.

Analysis

While appealing, the two-block-long bike lane is not a particularly useful facility, especially when the street is closed to traffic on weekends, and it will become redundant when the buffered lanes on Capitol and 9th are introduced. When the one-way travel replaced with two-way travel (which is better for business vitality) the resulting "slow-flow" geometrics (9-foot travel lanes) will allow bikes and cars to mix comfortably. Additionally, many merchants have expressed an interest in expanding the pedestrian-only hours of this popular dining area beyond its current weekend period. Although pedestrian malls are rarely good for business, this stretch of street is so short that there is reason to believe that it could thrive in a permanently pedestrian condition, which would allow the appealing introduction of a great deal more landscape into the roadway.

Recommendation

Restripe to two-way, providing two 9-foot travel lanes and one 8-foot parking lane on the west flank (where there is more sidewalk dining to protect from traffic). Experiment with extending the hours of the weekend pedestrian-only condition, using temporary trees in pots and other landscape that is easily inserted and removed. Consider making this change permanent if it proves successful around the clock.



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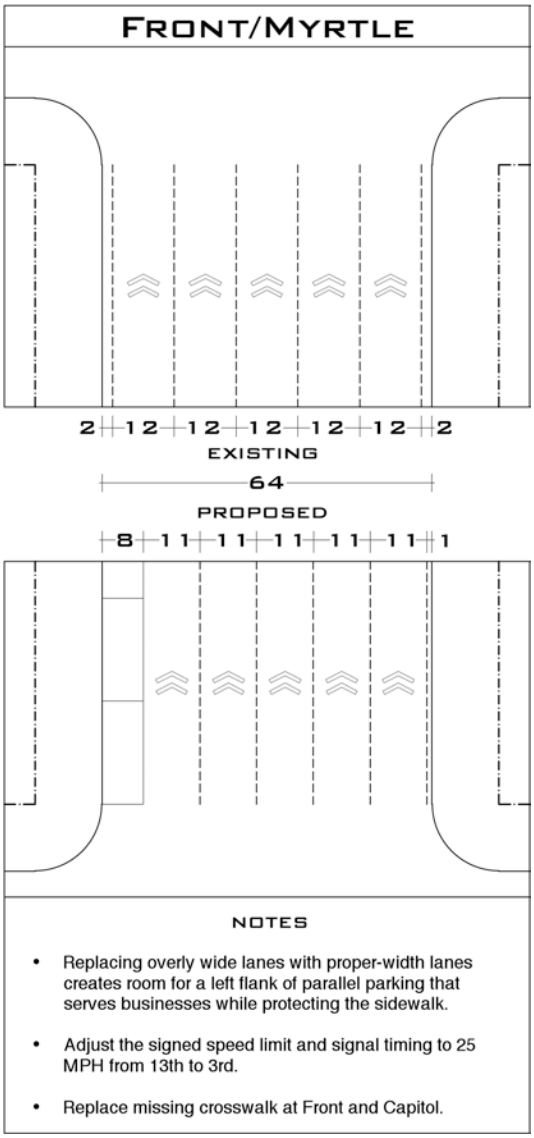
## Downtown East-West Thoroughfares

### *West Front and West Myrtle Streets*




Current Condition

Front and Myrtle are one-way and contain five 12-foot travel lanes flanked by 2-foot shoulders. There is no parallel parking. Signals may be timed for 35 mph. One crosswalk is missing at Front and Capitol.

Analysis

Two-way conversion is considered too burdensome at this time. Traffic volumes allow for lane reduction in some locations, but not consistently, so such a reduction is not recommended. 12-foot lanes invite speeding, as do shoulders, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. The absence of parking makes sidewalks vulnerable. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. The eliminated crosswalk inconveniences pedestrians to speed vehicles.

Recommendation

Restripe to provide 11-foot travel lanes and narrow one buffer to 1 foot, creating space for a left-flank parking lane of standard 8-foot width. Adjust signal timing to 25 mph. Replace missing crosswalk. This transformation is recommended to occur from 13th to 3rd Streets. Rumble strips may be advisable west of 13th.



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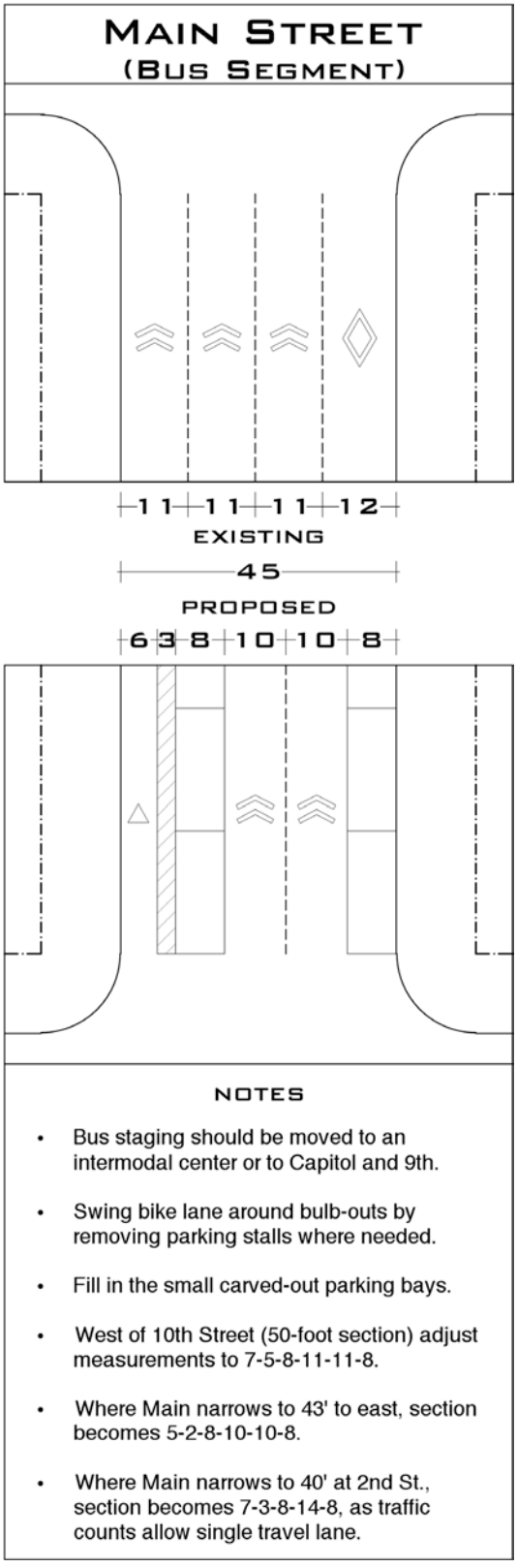
***West Idaho and Main Streets***
***(Bus Transfer Location)***

Current Condition
In this location, West Idaho and Main Streets are one-way and contain three 11-foot travel lanes and a 12-foot bus staging lane. Signals may be timed for 35 mph.

Analysis
Two-way conversion is possible, but is not recommended due to cycle facility opportunities that arise from the one-way condition. Traffic volumes allow for a reduction to two lanes. The bus staging blights the commercial sidewalk, and should be relocated to a place where it will not undermine retail or entertainment activity. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation
Restripe to provide two 10-foot travel lanes, two 8-foot parking lanes, and a 6-foot bike lane with a 3-foot buffer. Adjust signal timing to 25 mph. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," for details.) See notes at right concerning locations where width of roadway varies.





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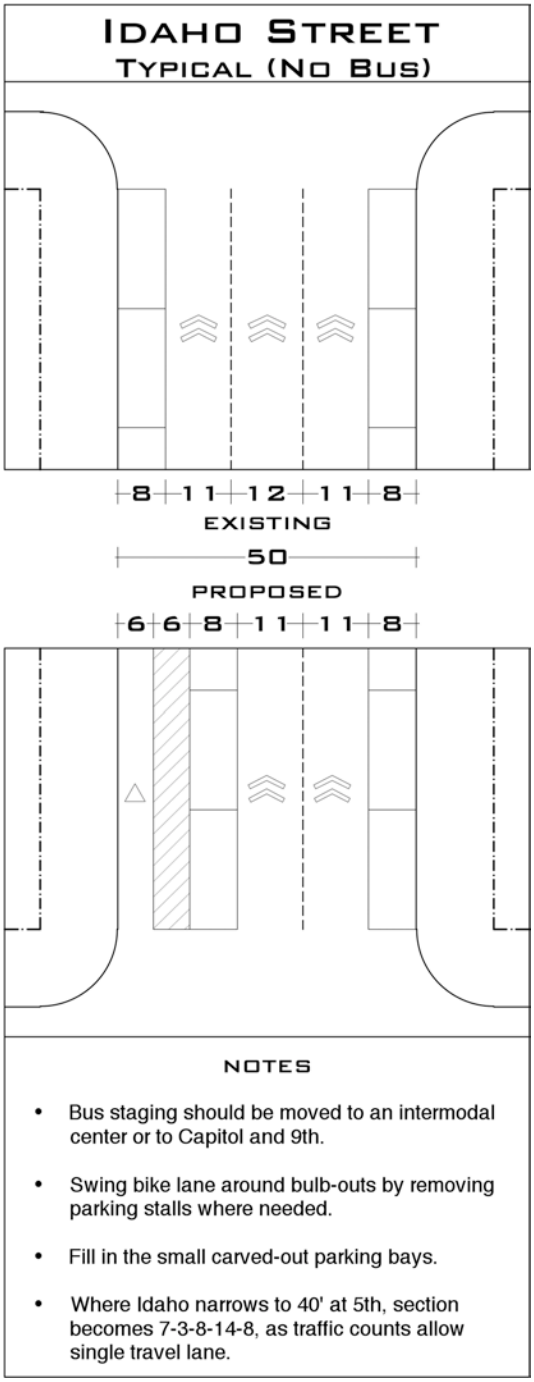
***West Idaho and Main Streets***
***(Non-Bus-Transfer Location)***

Current Condition
In this location, West Idaho and Main Streets are one-way and contain three 11-to -2-foot travel lanes and two 8-foot parking lanes. Signals may be timed for 35 mph.

Analysis
Two-way conversion is possible, but is not recommended due to cycle facility opportunities that arise from the one-way condition. Traffic volumes allow for a reduction to two lanes. 35-mph driving presents ten times the death risk to pedestrians as 25-mph driving. Excess roadway capacity, one-way orientation, and central location make this an ideal corridor for a buffered bike lane.

Recommendation
Restripe to provide two 11-foot travel lanes, two 8-foot parking lanes, and a 6-foot bike lane with a 6-foot buffer. Adjust signal timing to 25 mph. Consider custom signals, signage, and striping such as bike boxes to improve safety. (See "How to Approach a Busy Corner," for details.) Briefly remove parking lane where needed to skirt existing bulb-outs. (See How to Skirt a Bulbout for details.) See note at right concerning locations where width of roadway varies.



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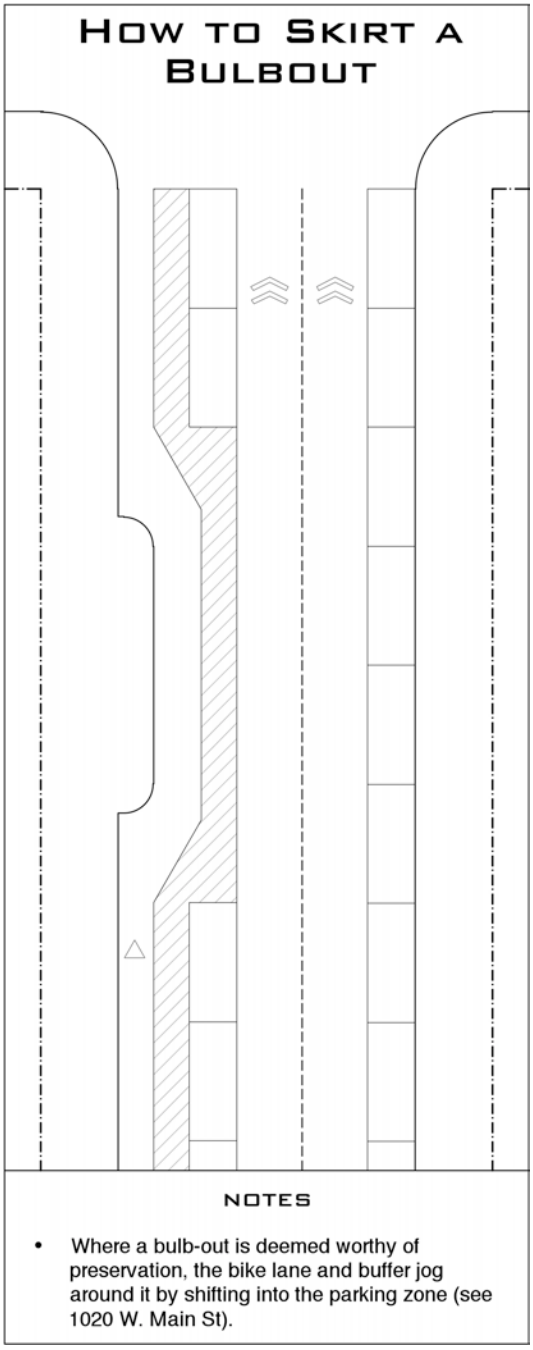
***Additional Note for Buffered Bike Lanes Encountering Bulbouts***

When a buffered bike lane encounters a bulbout, the continuity of the bike lane is maintained by curving the lane into the parallel parking lane, as diagrammed here.



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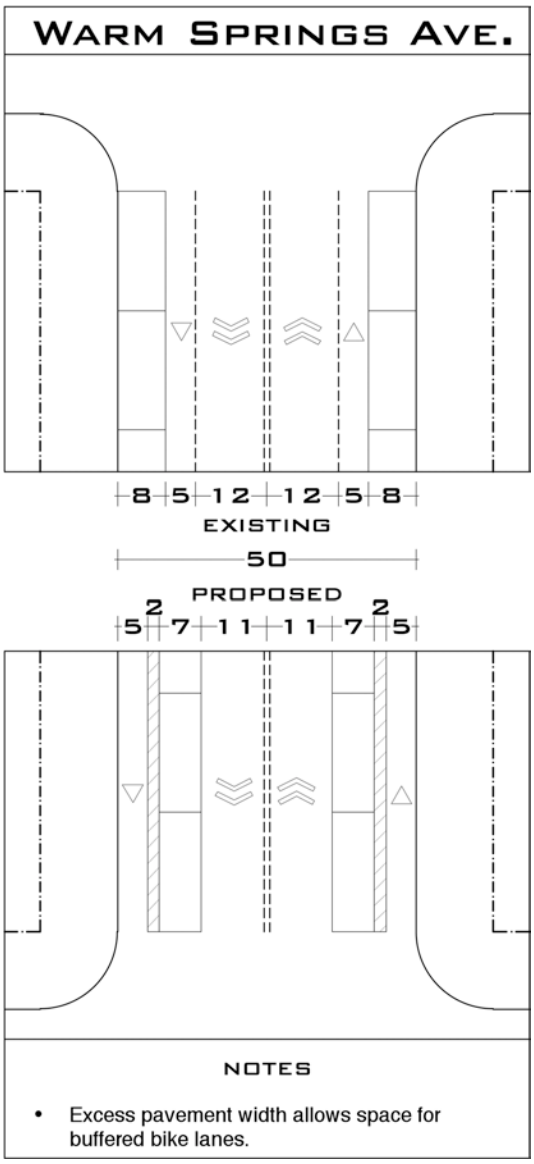
***Warm Springs Avenue***




Current Condition

Warm Springs Avenue currently contains two 12-foot travel lanes, two 5-foot bike lanes, and two 8-foot parking lanes.

Analysis

Because it is due to connect to the buffered bike lanes on Idaho and Main, Warm Springs provides the opportunity to continue this premium cycling experience to the east. Its 12-foot lanes invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. Reducing these to 11 feet and narrowing the parking spaces yields room for a buffered bike lane against each curb. Note that, due to the buffer, 7 feet is a standard width for a parking lane in this location.

Recommendation

Restripe to provide two 11-foot travel lanes, two 7-foot parking lanes, two 2-foot buffers, and two 5-foot curbside bike lanes.



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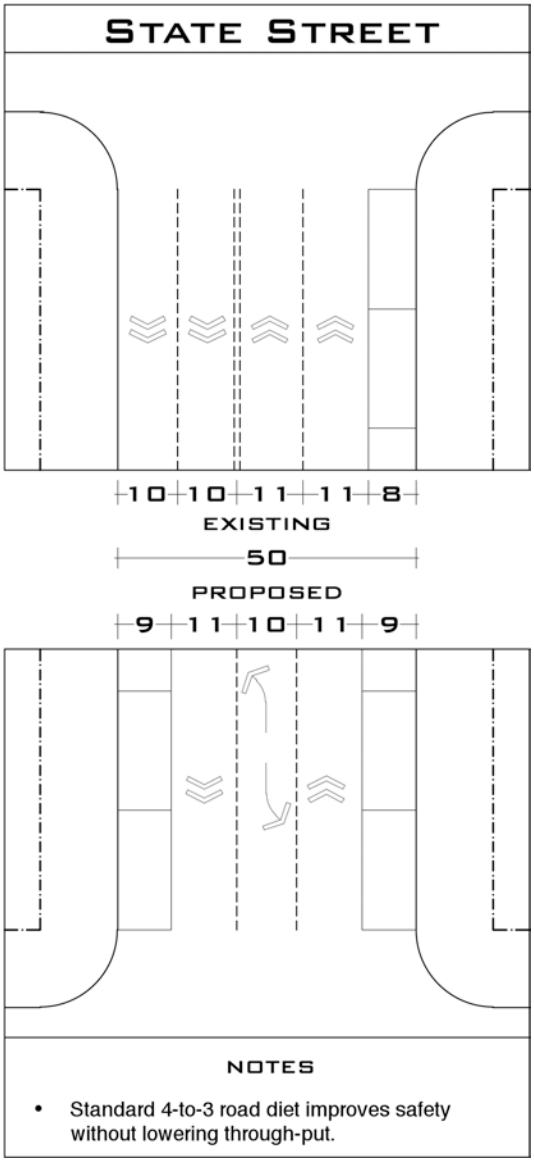
***West State Street***




Current Condition

Between West 15th and West 9th Streets, State Street is two way and contains four 10- to 11-foot travel lanes and one 8-foot parking lane.

Analysis

The four-lane two-way street is the ideal road-diet candidate, as a conversion to three lanes improves both safety and efficiency. In a study of seventeen 4-to-3-lane road diets completed by AECOM, the average through-put of the roads dieted increased slightly, despite the lane reduction. Because State Street does not offer a good opportunity for cycle facilities beyond this area, the removed travel lane is best put to use as a parking lane, protecting the one flank of sidewalk that is currently exposed. Wider parking lanes are recommended so that travel lanes do not become overly wide.

Recommendation

Restripe to provide two 11-foot travel lanes, a center 10-foot turn lane, and two 9-foot parking lanes.



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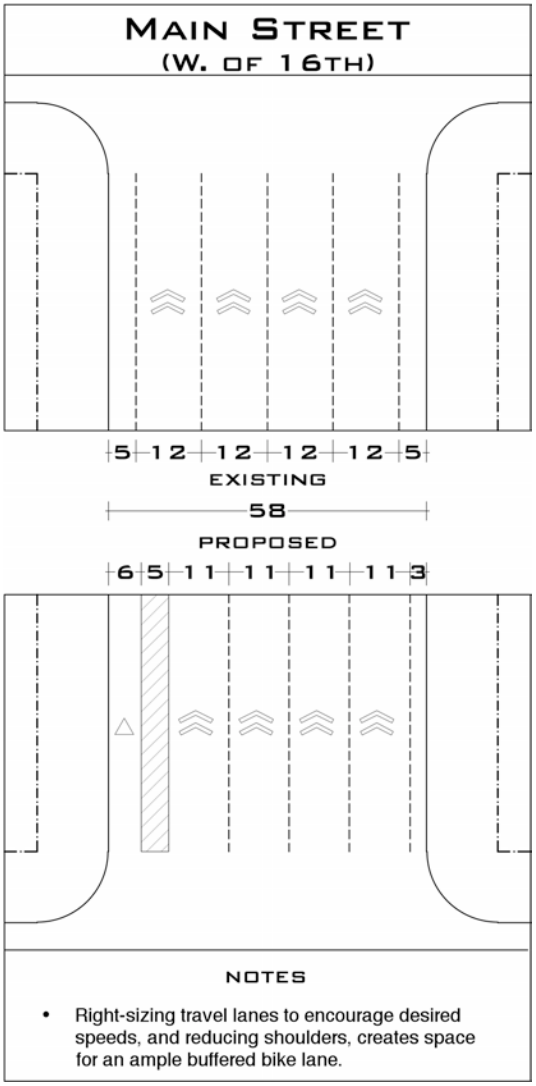
## Other Major Thoroughfares

***West Main Street***
***(West of W. 16th Street)***

Current Condition
West of downtown, Main Street is one-way and resembles a highway, with four 12-foot travel lanes flanked by two 5-foot shoulders. Some people use these shoulders for biking, but they feel quite perilous.

Analysis
This street is a prime example of how newly restriped streets in Boise are being engineered to a highway standard rather than an urban standard. 12-foot lanes invite speeding, as do shoulders, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. Admittedly, the land uses in this area are unlikely to ever invite pedestrians nor require parallel parking. But, when it is resurfaced, this street could become a legitimate bike route by right-sizing its travel lanes and providing a buffered bike lane in the width thus captured.

Recommendation
Eventually restripe to provide four 11-foot travel lanes, a 6-foot bike lane with a 5-foot buffer (to the left), and a 3-foot shoulder to the right.



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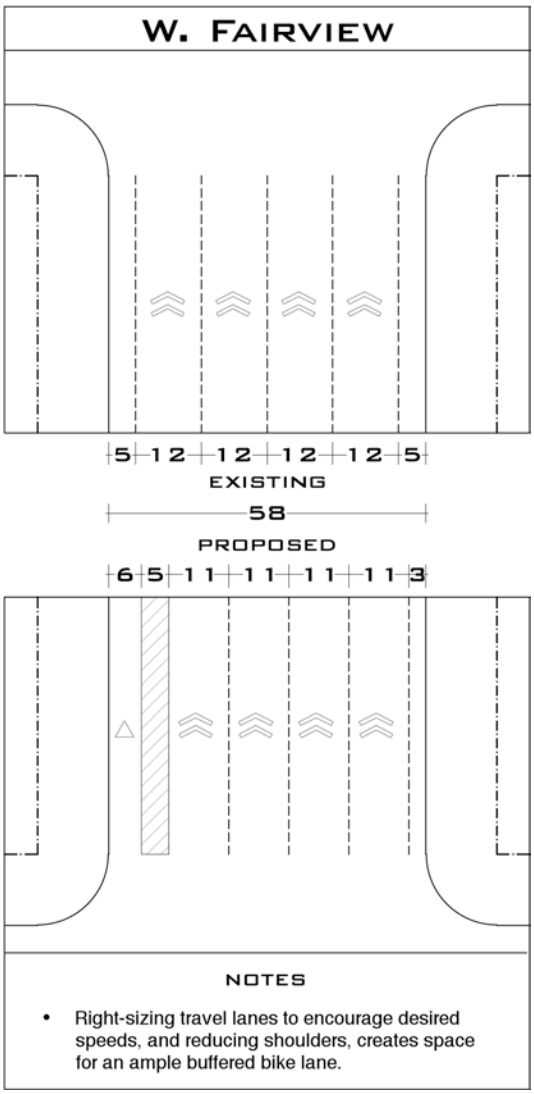
***West Fairview Avenue***




Current Condition

Like West Main, West Fairview is one-way and resembles a highway, with four 12-foot travel lanes flanked by two 5-foot shoulders. Some people use these shoulders for biking, but they feel quite perilous.

Analysis

This street is another example of how newly restriped streets in Boise are being engineered to a highway standard rather than an urban standard. 12-foot lanes invite speeding, as do shoulders, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. The land uses in this area are unlikely to ever invite pedestrians nor require parallel parking. But, when it is resurfaced, this street could become a legitimate bike route by right-sizing its travel lanes and providing a buffered bike lane in the width thus captured.

Recommendation

Eventually restripe to provide four 11-foot travel lanes, a 6-foot bike lane with a 5-foot buffer (to the left), and a 3-foot shoulder to the right.



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***West 30th Street***

Since it has just been built, there is no value in discussing the design of West 30th Street. One aspect of the street, however, seems to merit reconsideration, and that is the detail of the cycle crossing at West Pleasanton Avenue. This crossing is a part of the principal east-west cycling trajectory connecting downtown to the Boise River Greenbelt and the White-water Park. It is likely to attract many cyclists, but its current configuration clearly communicates a hierarchy in which the cyclist has a low status.

Coming from the west, cyclists have to merge with the north-south sidewalk and jog to the south to avoid a median that blocks their trajectory, then jog north to meet back with Pleasanton Avenue. Although it represents a significant cost, the proper solution for such a dominant corridor would likely be a reconfiguration of the median to provide a break on-axis with Pleasanton, and also a raised speed table holding the cycle crossing, amply marked, to alert drivers to the presence of cyclists.



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**All The Rest**

This study calls out individually only the most important streets. However, many other streets downtown are not optimally striped to serve cars, bikes, and pedestrians equitably. The generic street sections that follow should be applied whenever re-stripings are being considered for streets in the downtown core, especially in the study area discussed in this report.

As noted, none of these streets contain traffic volumes that would suggest more than two lanes of travel, although a center turn lane may be mandated at certain intersections. The additional provision of parallel parking and cycle facilities should be a function of the space provided, understanding that money is better spent on revised striping than on rebuilt curbs.

***Streets between 27 and 34 Feet Wide***

Current Condition

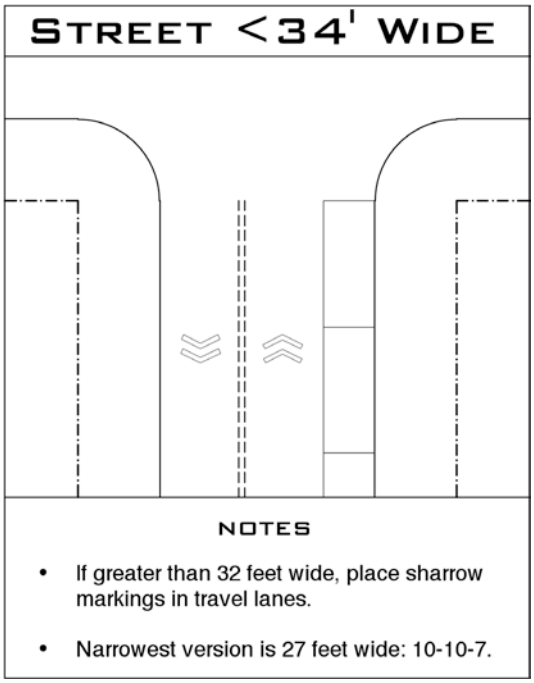
Downtown Boise contains no significant streets less than 27 feet wide. All streets of this width or wider have striping that may or may not include travel lanes wider than 11 feet. Without any rebuilding, these streets can be restriped to encourage safer driving and provide a better walking/biking environment.

Analysis

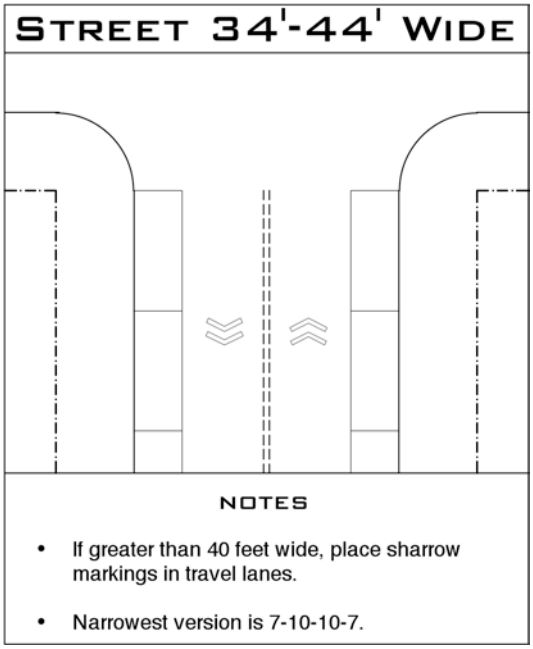
Lanes wider than 11 feet invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. Streets between 27 and 34 feet wide are too narrow to include parking on both sides or designated bike lanes, but they should include one flank of parking. The remainder of the cartpath should be divided between two travel lanes. If these lanes are wide enough to include sharrow markings, doing so will both invite cyclists and calm traffic. (Note: given that the traditional standard for parking lanes is 7 feet, a 10-10-7 layout should be considered acceptable in a 27-foot cartpath.)

Recommendation

Streets between 28 and 34 feet wide should be restriped to contain an 8 foot parking lane and two travel lanes (in a two-way configuration). If these lanes are wider than 12 feet, they should be marked with a sharrow logo towards the center right of the lane. Streets between 27 and 28 feet in width should include two 10-foot travel lanes and one parking lane.



***Streets between 34 and 44 Feet Wide***




Current Condition

Streets between 34 and 44 feet wide in downtown Boise have striping that may or may not include travel lanes wider than 11 feet. Without any rebuilding, these streets can be restriped to encourage safer driving and provide a better walking/biking environment.

Analysis

Lanes wider than 11 feet invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. Streets between 34 and 44 feet wide are wide enough to include parking on both sides, and this parking is more important to downtown vitality than additional bike lanes, given the robust cycling network already proposed above. (44 feet is not wide enough to include bike lanes in addition to this parking.) The remainder of the cartpath should be divided between two travel lanes. If these lanes are wide enough to include sharrow markings, doing so will both invite cyclists and calm traffic. (Note: given that the traditional standard for parking lanes is 7 feet, a 7-10-10-7 layout should be considered acceptable in a 34-foot cartpath.)

Recommendation

Streets between 36 and 44 feet wide should be restriped to contain two 8-foot parking lanes and two travel lanes (in a two-way configuration). If these lanes are wider than 12 feet, they should be marked with a sharrow logo towards the center right of the lane. Streets between 34 and 36 feet in width should contain two 10-foot travel lanes and two parking lanes.



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***Streets between 44 and 54 Feet Wide***

Current Condition

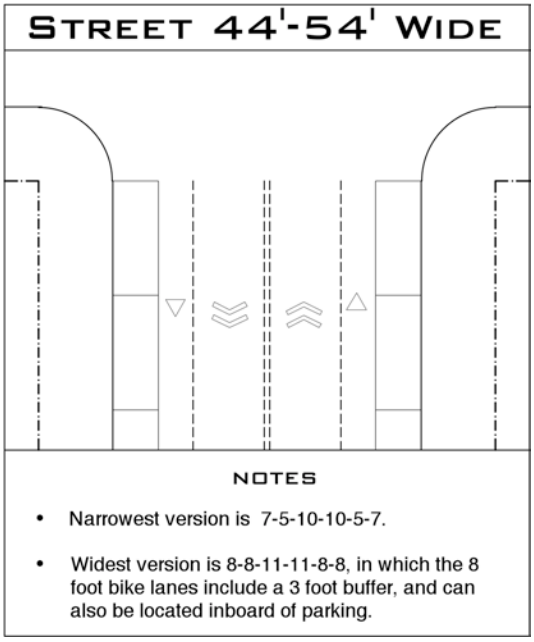
Streets between 44 and 54 feet wide in downtown Boise have striping that may or may not include travel lanes wider than 11 feet. Without any rebuilding, these streets can be restriped to encourage safer driving and provide a better walking/biking environment.

Analysis

Lanes wider than 11 feet invite speeding, and are wider than the standard approved by the *ITE/CNU Street Design Manual*. Streets between 44 and 54 feet wide are wide enough to include bike lanes on both sides as well as two parking lanes. As the street widens beyond the minimum necessary, the bike lanes should be provided with buffers, to keep travel lanes at a reasonable width. (Note: given that the traditional standard for parking lanes is 7 feet, a 7-5-10-10-5-7 layout should be considered acceptable in a 44-foot cartpath.)

Recommendation

Streets between 44 and 46 feet in width should be restriped to contain two 10-foot travel lanes, two 5-foot bike lanes, and two parking lanes (making use of the remaining width). Streets between 46 and 52 feet in width should contain two 10-foot travel lanes, two 5-foot bike lanes, two 8-foot parking lanes, and bike lane buffers (making use of any remaining width). Streets between 52 and 54 feet in width should contain two 5-foot bike lanes, two 3-foot buffers, two 8-foot parking lanes, and two travel lanes (making use of the remaining width). For streets in which the buffer is 2 feet wide or more, the bike lanes and buffers may be provided in a "protected" configuration between the parking lane and the curb.



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## PART IV: SETTING PRIORITIES

### A Realistic Redevelopment Strategy

Most mayors, city managers, municipal planners, and other public servants feel a responsibility to their entire city. This is proper, but it can be counterproductive, because by trying to be universally good, most cities end up universally mediocre. This is particularly the case when it comes to pedestrian activity. Every city has many areas that would benefit from concerted public investment, but only a few where such investment can be expected to have a significant impact on the number of people walking and biking.

The reason for this circumstance can be found in our earlier discussion about the conditions that are needed to welcome pedestrians: the useful, safe, comfortable, and interesting walk. Unless a walk can simultaneously satisfy all four criteria, it cannot be expected to get people out of their cars. Yet, even in American cities known for their walkability, only a small percentage of the metropolis provides a tight-grained mix of uses, let alone a collection of well-shaped streets that provide comfort and interest. It is for this reason that most walkability studies focus on downtowns; that's where walking can serve a purpose, and where the block structure is likely to be the most robust. Boise has many lovely neighborhoods beyond downtown, but it can hardly be considered an exception to this rule.

And even within an urban downtown, all is not equal. Generally, there are two types of areas within a downtown where public investment will have a greater impact on walkability than in others.

First, only certain streets in the downtown are framed by buildings that have the potential to attract and sustain pedestrian life. There is little to be gained in livability by improving the sidewalks along a street that is lined by muffler shops and fast-food drive-thrus. These streets should not be allowed to go to seed; the trash must be collected and the potholes filled. But investments in walkability should be made first in those places where an improved public realm is given comfort and interest by an accommodating private realm—or a private realm that can be improved in short order.

Second, there are streets of lower quality than those above, but which are essential pathways between downtown anchors, for example from a university or hospital to a restaurant row. These streets may require greater investment to become walkable, but that investment is justified by their importance to the downtown pedestrian network.

By studying existing conditions, we can see where streets are most ready, or most needed, to support pedestrian life, and focus there. This technique of *Urban Triage*—a phrase coined by Andres Duany—may sound a bit mercenary and unfair, but it results in money being spent wisely.



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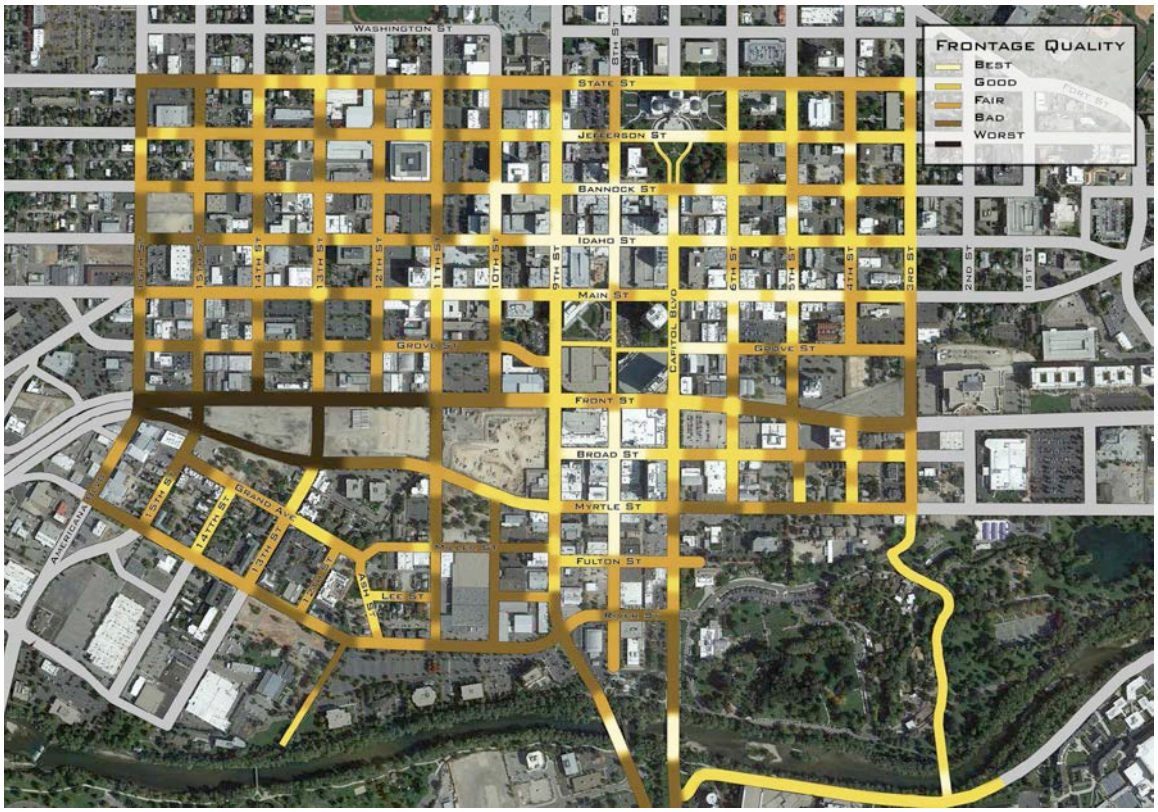
## The Street Frontage Quality Rating

The drawing below is a Street Frontage Quality Rating for the study area. This map rates each street segment subjectively in terms of its pedestrian quality, based on the criteria of use, comfort and interest. Lighter-colored areas are generally useful, comfortable and interesting, and therefore capable of attracting pedestrians. Darker-colored areas fail to embrace the sidewalk with active building edges, and it is hard to imagine how limited interventions could turn them into places where pedestrians would feel comfortable.




*The Street Frontage Quality Rating ignores Safety and instead focuses on the Usefulness, Comfort, and Interest of the street space.*

It is worth stressing that the three criteria measured in this diagram do not include the geometry of the street space—whether it makes pedestrians feel safe. That important category has already been addressed in the Street Design section, and is unique among the four criteria in that it is something that public entities can improve very quickly, spending public dollars. In contrast, usefulness, comfort, and interest can be improved by cities over time—through design codes and, potentially, investment—but those improvements are usually achieved through the efforts of private actors, at arm's length.

Given that the improvement of these three criteria—the ones rated in the drawing above—are generally not publicly controlled, and tend to take more time, it is wise for public agencies to focus on street design as a principal way to improve walkability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quickly. That effort, however, needs to be prioritized based upon where the ground is already primed for such improvements to take root.

In this drawing, the ratings—from Best to Worst—truly cover the full range of quality, from delightful to miserable. Only those places marked Best or Good have frontages that are inviting to pedestrians. It is evident that Boise has a clear core of reasonably inviting downtown frontages, with a sweet spot that emerges roughly from West 11th to West 3th Streets. This area still needs much work, but it is clearly superior to the remainder of the downtown. This map allows us to create a second drawing that can be more instrumental in the direction of our efforts.

**The Primary Network of Walkability**

Turning a Frontage Quality Rating into a Primary Network of Walkability is a two-step process. First, the Rating is studied for patterns that emerge, in which certain streets of higher quality come together to form a clear network of walkability. Second, that network is supplemented by the additional streets that are necessary to connect it to the key anchors that it almost reaches, including other pieces of itself. These anchors are chosen for practical purposes—like connecting a theater to its parking—and for social purposes—like connecting a transit hub to a health clinic. It is important to remember, in this work, that some people do not have the luxury of automobile use and, while they may not be many in number, they rely more heavily on walkability than others do.

As diagrammed on the next page, trajectories shown in light green are already pedestrian-friendly, capable of becoming so with limited short-term intervention, and/or important to the establishment of a meaningful network. This light green web is the Primary Network of Walkability. It is quite small but, if implemented properly, it will be enough to fundamentally alter the pedestrian experience downtown. This will be accomplished by providing a preferred way for pedestrians to traverse the area east-west and north-south in an environment of continuous excellence.

As can be seen in the Diagram, the Primary Network of Walkability essentially stretches east-west from West 11th to West th, with the following principal exceptions:

- West 4th and West 5th Streets are not included, due to inconsistent frontages;
- Much of Grove Street is excluded due to quite poor frontages, as is most of Front & Myrtle;
- Despite its quality, North Capitol is included due to its connection to BSU;
- Bannock Street is included to its interface with St. Luke's Hospital.

It is important to note that this diagram is based upon a current understanding of the quality of downtown frontages, and it could change. For example, it already anticipates the arrival of JUMP, which will place a friendly face to Front Street but not to Myrtle. If the block to its west is also developed properly, that would change both the Frontage Quality Assessment and the Primary Network of Walkability.



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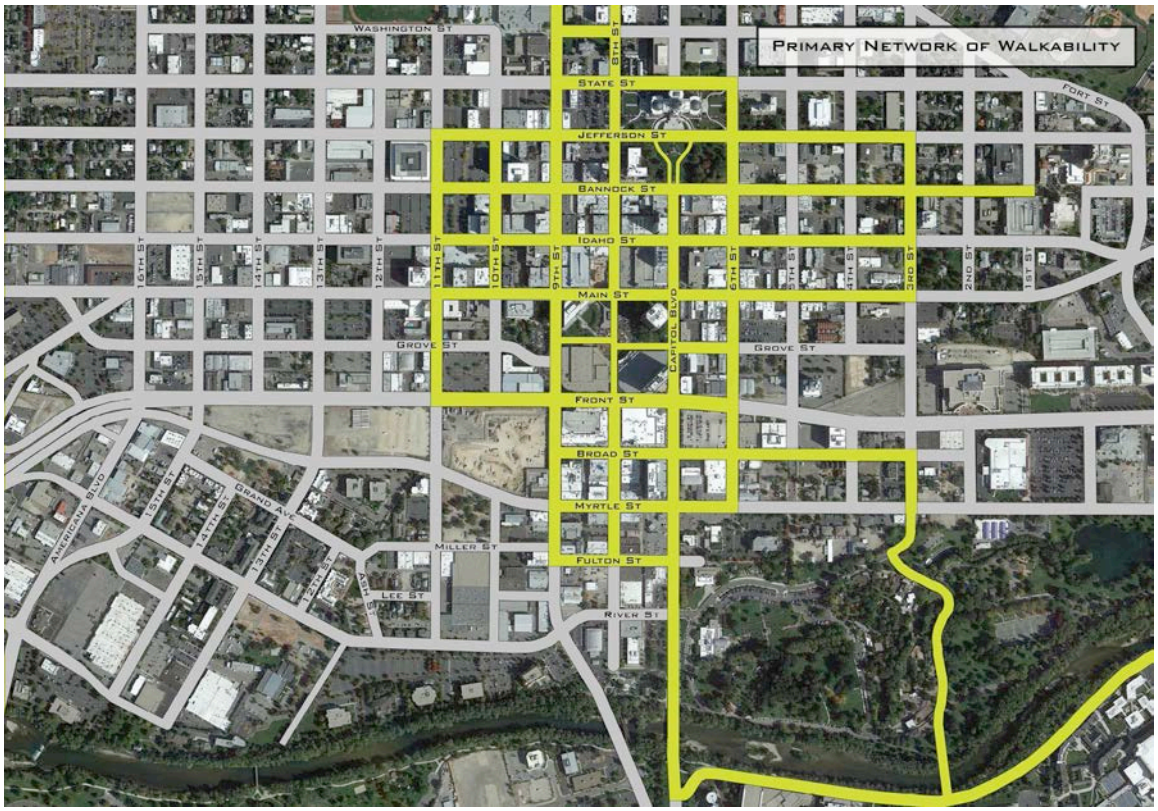


*The Primary Network of Walkability emerges from the Frontage Quality Assessment, but with an additional eye towards key anchors.*

This map is meant to be to be blunt: if the goal is to bring walkability to downtown Boise as quickly as possible, no public investments in walkability should be made beyond this green network until all such investments within that network are complete.

The Primary Network of Walkability is an essential tool in the planning of the downtown. It is theoretically open to argument but, once any arguments are resolved, it is the proper document for directing action. The City, ACHD, and other public players have a limited amount of funds for making public investments, and a limited number of tools for encouraging private investments. If these funds and tools are to be used wisely, they will be concentrated on those specific areas that will improve, reinforce, and make continuous the part of downtown that has potential to be truly walkable.

***The eighth Specific Recommendation of this report, therefore, is for the City, ACHD, and other public agencies to commit to direct its pro-walkability investment first to the Primary Network of Walkability, before spending any such funds elsewhere.***



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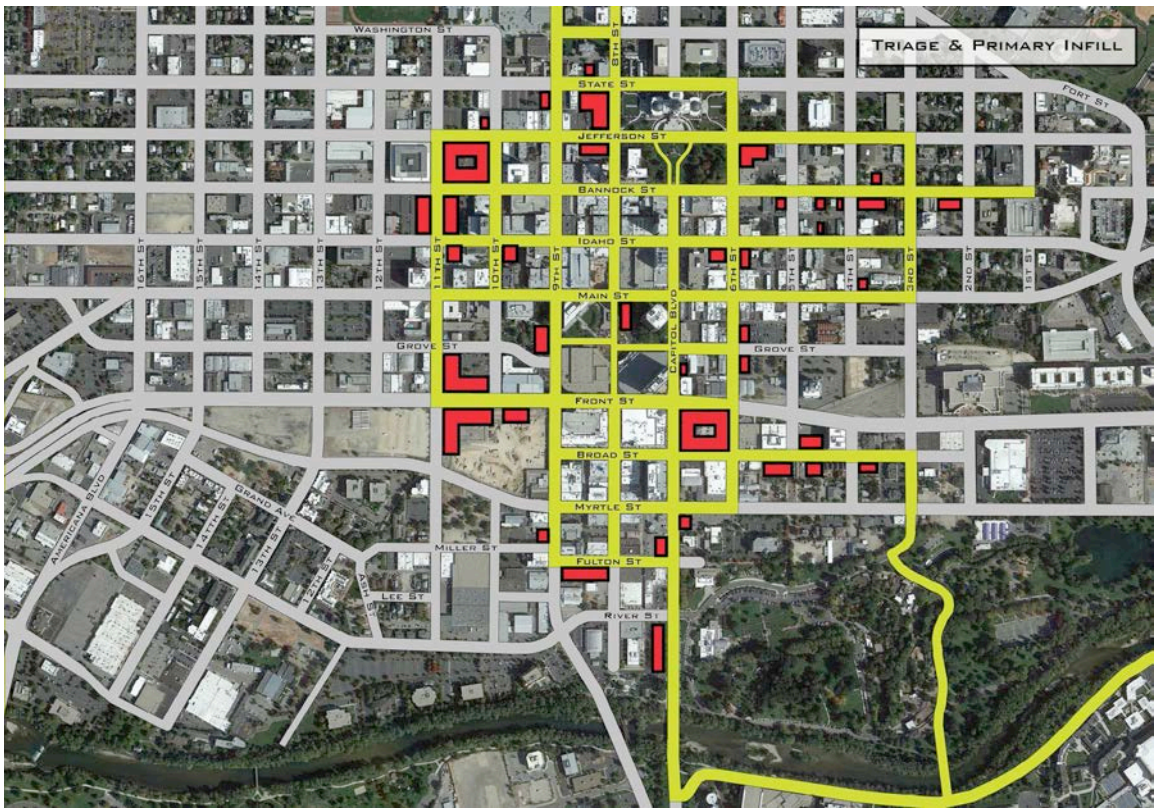
**The Infill Sites**

In terms of private investment—and public investment in vertical construction—a final diagram takes the Primary Network of Walkability one step further, to indicate the non-roadway construction that is necessary if the Primary and Secondary Networks of Walkability are to take root. Transforming the realities of the Urban Frontage Quality Rating into the Network of Walkability requires correcting the flaws that distinguish these two drawings. This is done by filling in missing teeth, hiding parking lots, and otherwise turning unfriendly street edges into friendly ones. When combined with the thoroughfare redesigns outlined in detail ahead, these changes will add comfort and interest to these street's planned improvements in safety.

Creating this third diagram, titled Infill Sites, is a simple mechanical exercise, in which all missing teeth are replaced by buildings. Shown in red below are the few dozen buildings—some quite small—that are needed to make the Primary Network of Walkability complete. To the degree that the City or other public agencies are able to sponsor or incentivize building construction in downtown, these are the places to do so first. Any investments elsewhere, while perhaps justifiable for other reasons, will not contribute meaningfully to downtown walkability. A community that truly prioritizes walkability will do everything in its power to fill these sites first.




*The sites indicated in red are the buildings that must be constructed to perfect the Primary Network of Walkability.*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***The ninth Specific Recommendation of this report is that the public sector and private sector come together to officially embrace these Infill Sites as the most important (unbuilt) redevelopment sites in downtown Boise, second only to the renovation of existing structures in the hierarchy of investment merit.***

The specific footprint of each building shown in the Infill Sites diagram can be somewhat flexible, with the understanding that buildings should sit directly against the sidewalk along the majority of their frontages, and that those frontages should receive active, open facades.

Each of these sites is worthy of additional study. Some, like JUMP and the Trader Joe's site, are already under construction. Others, like a building within the parking lot on the northeast corner of The Grove, would have a more profound impact than is perhaps imagined.

**A Strategy for Leverage**

Placing buildings upon the Infill Sites described above is an instrumental strategy for improving street life in Boise, and also for bringing more housing into the downtown. Unfortunately, real estate developers are finding it difficult to provide downtown housing at a rate that is attainable to the millennials and other urban-minded groups that are most likely to want to locate in the heart of the city. As discussed earlier, one strategy that can help in this regard is the dedication of underutilized capacity in downtown parking garages in support of new housing.

While it is not the only municipality that has made use of this strategy, Lowell, Massachusetts, provides a compelling example. As recently as 2000, the heart of the city held only about 1700 housing units, of which fully 79 percent were subsidized and income-restricted. Thirteen years later, the number of units has roughly doubled, and almost 85 percent of the new housing is market rate. This outcome was the result of a number of strategies, the most significant of which was perhaps the City's assignment of underutilized spaces in its five municipal lots towards the construction of new housing. Specifically, rather than having to build new lots to satisfy their lenders' demands for parking, the city explicitly assisted developers in identifying parking spaces that were already sitting empty in the City's garages.

This approach, in addition to helping the City pay down its debt service on the garages, allowed developers to provide housing at a cost that was perhaps 25% lower than it would have been otherwise. A similar discount could go a long way toward making middle-class housing more possible in downtown Boise.

This technique need not only apply to the six downtown garages that are owned by the Capital City Development Corporation (CCDC). Two others, belonging to the Boise


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Plaza and Banner Bank, are even less fully utilized than the CCDC's garages. It would benefit these two businesses to enter into a City-brokered deal of similar nature.

In considering how much housing these garages could potentially leverage, it is necessary to consider the complimentary loads that different uses place upon parking spaces at different times of the day. While it would be beneficial to determine a more precise formula for Boise, it is probably a safe guess that at least half of the people living with cars in downtown will commute to work every workday, vacating their parking spaces during their current daytime peaks. That assumption leads to the following calculation for each of the downtown garages:

Capitol Terrace Garage
This structure holds 495 stalls, but it is almost entirely occupied on weekend evenings, so it is not a good candidate for this purpose.

Eastman Garage
This structure holds 395 stalls, 123 of which are empty during business hours, and 364 of which are empty during weekend evenings. 123 x 2 = 250 (I am here rounding to the nearest ten), which is less than 364, so this garage can perhaps supply 250 spaces. Incidentally, since a space in a parking structure typically costs about $20,000 to build, these spaces have an effective value of $5 million dollars.

City Centre Garage
This structure holds 584 stalls, 361 of which are empty during business hours, and 234 of which are empty during weekend evenings, which is here the greatest constraint. So this garage can perhaps supply 230 spaces.

Grove Street Garage
This structure holds 543 stalls, 185 of which are empty during business hours, and 485 of which are empty during weekend evenings. 185 x 2 = 370 (rounding), which is less than 485, so this garage can supply 370 spaces.

Boulevard
This structure holds 216 stalls, 74 of which are empty during business hours, and 141 of which are empty during weekend evenings. 74 x 2 = 150 (rounding), but that is greater than 141, so this garage can supply 140 spaces.

Myrtle
This structure holds 343 stalls, 213 of which are empty during business hours, and 168 of which are empty during weekend evenings. Here again, the off-peak hours are the constraint, so this garage can supply 170 spaces.

Boise Plaza
This private structure holds 800 stalls, 292 of which are empty during business hours, and almost all of which are empty during weekend evenings. 292 x 2 = 580 spaces



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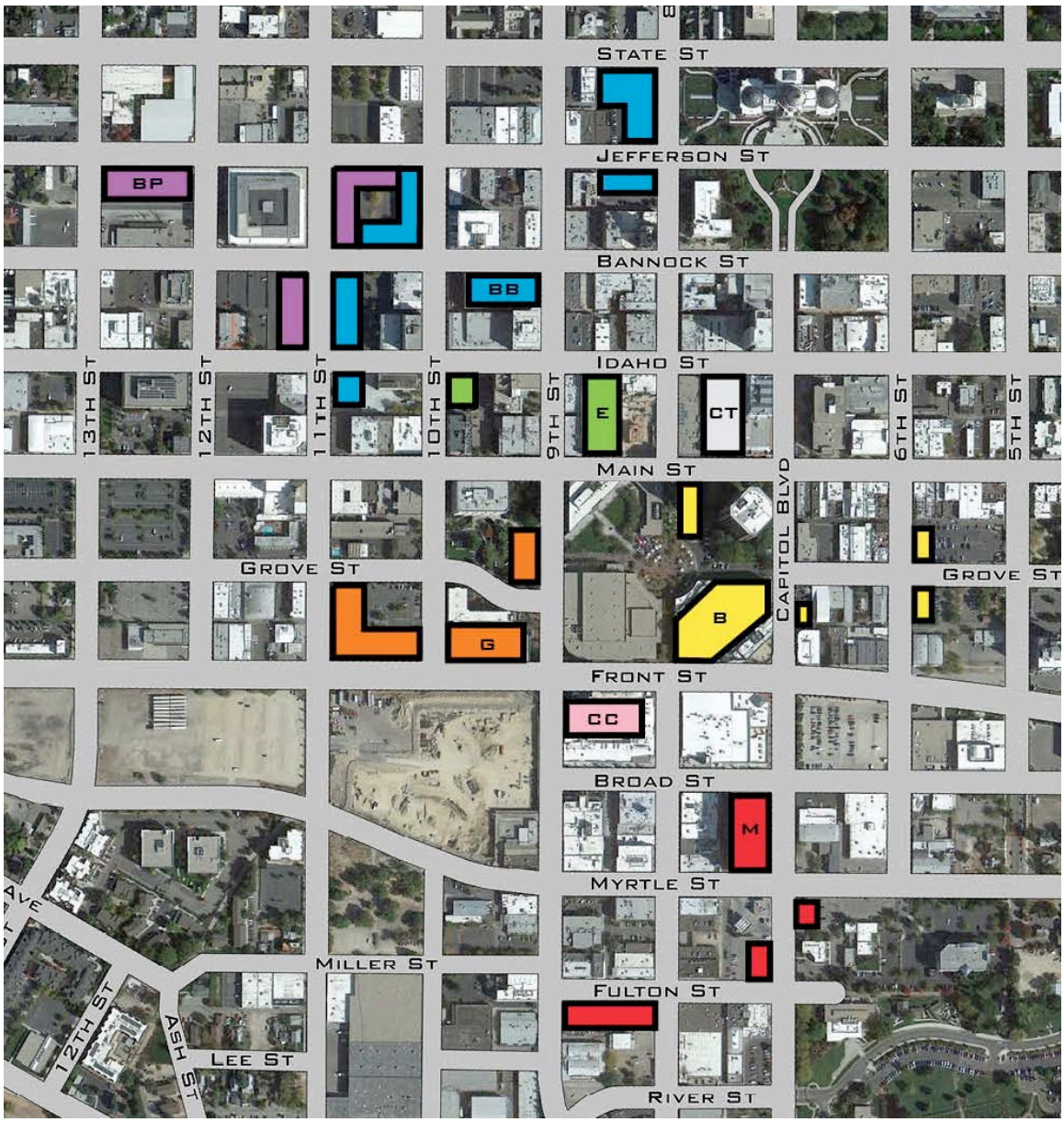
Banner Bank

This private structure holds 600 stalls, 212 of which are empty during business hours, and almost all of which are empty during weekend evenings. 212 x 2 = 420 spaces.

Totaling all of the above availability brings us to a potential supply more than 2100 spaces. The math that brought us to this number bears some greater scrutiny, but the fact remains that there is enough underutilized parking downtown to help leverage the construction of thousands of new apartments.




*Underutilized garages (indicated by initials) provide parking to leverage the construction of housing on the Infill Sites of the corresponding color.*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It is important to note that this housing must be located within a short walk of the underutilized garages. That mandate leads to the following drawing indicating which buildings on the prior Infill Sites diagram can be served by which garages. This diagram suggests a somewhat smaller yield, since some garages do not have enough Infill Sites nearby—for example, the City Center garage has none. But the combined contribution that can be made by all of these underutilized structures is still huge.

Dedicating underutilized parking to new construction in this way may not be enough to dramatically impact the construction of housing downtown, but it is one strategy out of several that the City and other public agencies can pursue in support of a better housing/jobs balance and a more vital downtown. ***For that reason, the tenth Specific recommendation of this report is that the City and CCDC explicitly create a program to assign underutilized structured parking spaces, both CCDC-owned and private, to the development of new housing downtown.***



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## SUMMARY

While a considerably larger number of suggestions are included in this report—along with an essential collection of explanations and justifications—there are ten Specific Recommendations that have been highlighted for immediate consideration. They can be summarized as follows:

1. Expand the one-way to two-way conversion of downtown thoroughfares to include West 5th, 6th, 8th, 13th, 15th, and 16th Streets.

2. Conduct a public process around this report's proposed Cycling Plan, to determine whether its recommendations for a more robust system (including buffered lanes) represent the will of the community.

3. Relocate the transit center to a place within the downtown core where it does not sunder commercial activity.

4. Refine the City's approach to downtown parking provision and pricing in light of the three principles of *collective supply*, *demand-based pricing*, and *parking-benefit districts* (described further herein).

5. Institute a universal 25-mph speed limit in the downtown core, and re-synchronize all one-way signals to that speed.

6. Create a Memorandum of Understanding among the Ada County Highway District, the Idaho Transportation Department, the City, and the Capital City Development Corporation acknowledging and endorsing the concepts of Induced Demand, Peak VMT, Induced Speeding, and The Network, as described in this report.

7. Establish a plan to restripe downtown streets to include only the number of travel lanes that current demand suggests, using additional roadway for bike lanes and parking as appropriate. (Specific recommendations for many streets are provided in this report.) Also, wherever restriping results in the intersection of two two-lane, two-way streets, consider replacing traffic signals with two-way stop signs.

8. Create a Memorandum of Understanding among the Ada County Highway District, the City, and the Capital City Development Corporation to direct any pro-walkability investment first to the Primary Network of Walkability (described herein) before spending any such funds elsewhere.

9. Mount a public effort celebrating the Infill Sites (described herein) as the most important (unbuilt) redevelopment sites in downtown Boise, second only to the renovation of existing structures in the hierarchy of investment merit.



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10. Create a City program to officially assign underutilized structured parking spaces, both public and private, to the development of new housing downtown.

These ten recommendations, collectively, are considered essential to meeting the mandate guiding this report, which is to transform downtown Boise into a place that is truly welcoming to pedestrians and cyclists. They are only important to the degree that this mandate is considered valid. It is hoped that, in additions to these recommendations, this report contains ample evidence in support of that validity.



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**ACKNOWLEDGEMENTS:**

This report was completed only after many hours of meetings in Boise with a wide range of organizations and individuals. Speck & Associates would like to express its gratitude to the Capital City Development Corporation—who funded the effort—the Ada County Highway Commission, the City of Boise and its Mayor and City Council, and the large number of interested citizens and merchants who took the time to speak with us.



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