THE CENTER FOR ADVANCED URBAN VISIONING

When the Money Is Never Enough

Advanced Urban Visioning: A Learning Process for Achieving Ambitious Regional Goals with Limited Resources

By Alan Hoffman | September 2026 | Updated 23 October 2026

Most regional plans depend on transit to meet their ambitious goals, yet outcomes often fall short—a problem worsened by rising project costs and tighter funding. Conventional planning processes aren't *designed* to achieve goals: they don't build on what makes more people *choose* transit; they don't plan *backwards* from outcomes; and their project evaluation models can work against more effective solutions. When money is tight, projects are scaled back and their effectiveness compromised. Regions invest billions but don't get the results they need.

Advanced Urban Visioning, built from decades of innovation worldwide, is a seven-stage learning process that can help regions maximize results for any given level of funding. Regions can start with a focused diagnostic that maps transit's competitive position, stress-tests their evaluation tools, and identifies the next steps toward a stronger plan.

A Converging Crisis in Regional Planning

Metropolitan regions across the globe face a widening gap between what their transportation plans are expected to accomplish and what available resources can realistically deliver. Regions adopt ambitious goals for mobility, transit ridership, climate, housing, road congestion, accessibility, equity, safety, and economic development, even as infrastructure costs skyrocket, operating deficits mount, and public budgets contract.

The usual response is to begin with a collection of proposed projects, evaluate them individually, assemble them into a regional program, and then decide what can fit within expected financial constraints. While this process can produce a fiscally constrained plan, it is not designed to answer a different and more difficult question: what combination of infrastructure, services, and land-use relationships would actually achieve the region's adopted outcomes, and how can those results then be produced with limited resources?

Chief executives and regional planning boards therefore need a process that can help their organizations solve this problem rather than simply manage the gap between aspirations and available funding. Advanced Urban Visioning (AUV) is a structured *learning process* for discovering how to produce the desired outcomes, how to apply these insights to sharpen the alignment between current plans and those outcomes, and how to embrace a *strategic* approach that adapts to changing financial conditions without compromising desired goals.

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AUV provides a structured, outcome-driven learning process through which a region's own planners, engineers, executives, consultants, public officials, and stakeholders can learn how to achieve more with less.

Advanced Urban Visioning does not deliver a pre-conceived transportation plan, produce localized route maps, or favor any particular modal technology. Nor does it aim to substitute an outside plan for a region's current plan. AUV provides a structured, outcome-driven learning process through which a region's own planners, engineers, executives, consultants, public officials, and stakeholders can learn how to achieve more with less. The advisor's role is to facilitate that learning process and bring together forms of analysis that are usually handled in separate professional silos; *the enduring product is stronger institutional capability, not dependence on an outside visionary*.

There are several core elements of the AUV process:

- Refining regional travel models;
- Focusing on transit's competitive position;
- Working backwards from desired outcomes; and
- Aligning current plans with those outcomes.

The first of these is critical: ensuring that the models we use to measure the performance of proposed projects actually measure the very attributes that lead to competitive advantage—and the new ridership that results.

Understanding the Limitations of Legacy Evaluation Tools

Traditional transportation system modeling possesses an inherent limitation: it is structurally not designed to accurately project the systemic breakthroughs made possible by market-informed service innovations. Most regional transportation models don't reward an optimal transit plan, nor do they penalize plans that fall short on important attributes that aren't actually measured, because they:

- Miss many key drivers of modal choice;
- Don't identify, characterize, locate, and target different market segments;
- Often don't actually measure what others may believe they measure, such as actual walking distances;
- Aren't designed to account for competitive position, competitive advantage, network effects, or strategic intent;
- Don't distinguish adequately between the different ends of a trip or use superior transit travel times (when produced) to rebalance trip allocation; and
- May require "calibration" adjustments so large that they can equal all other measures combined in terms of their impact on projected ridership.

This is not a fault of modeling or of the dedicated and highly intelligent professionals who maintain and operate these complex tools. It reflects how and why most regional models were built: primarily to estimate traffic loads and then forecast the ridership effects of incremental changes to existing transportation systems, not to identify how transit networks should or could be designed to maximize modal shift. The point here isn't to critique transportation models; AUV's concern is more practical—understand what the tools can and cannot see before asking them to evaluate breakthrough strategies.

AUV gives modeling teams a structured opportunity to explore how their analytical

tools respond to service configurations substantially different from those used in developing and validating them. The team helps identify which questions existing tools can answer confidently, where supplementary analysis would be useful, and which refinements would be most useful to their authorizing environment.

The Seven-Stage Learning Framework

AUV is a strategic process built around three complementary strategies for achieving more with limited resources:

1. Work backward from desired outcomes—and benchmark the plan against its potential. Determine what combination of connectivity, access, travel time, customer experience, and integration with existing and potential land uses is required to produce the outcomes the region seeks. Use an optimized system as a performance benchmark—not as a competing plan, but to understand what transit could potentially accomplish and where opportunities exist to increase the performance of the region's existing plan.

2. Ensure that transit investments advance the long-term vision and produce immediate value. Structure and sequence investments so that even relatively small increments can produce measurable benefits when they open, while increasing the value of what has already been built and creating better opportunities for what comes next.

3. Deploy capital investments to reduce operating costs. Identify opportunities to use infrastructure to engineer time out of the system, reducing the resources required to provide service and allowing scarce operating dollars to support more frequent, extensive, and useful service.

The AUV methodology systematically implements these three strategies through a rigorous, seven-stage organizational learning process. Each stage represents a clean statement of the specific learning that takes place, establishing a clear line of inquiry where each step answers a question that the subsequent stage cannot address until the previous one has been resolved:

Stage 1: Learn where transit is competitive, where it is not, and what your project evaluation models see and cannot see.

ESSENTIALLY: *What do we already know, even if we don't know it yet?*

The process begins by benchmarking transit's competitive position against driving across the region. Transit System Effectiveness (TSE) mapping identifies where transit is competitive, where it is not, and the magnitude and geography of those differences. At the same time, planners collaboratively stress-test their existing analytical instruments using deliberately constructed

Why Save Time?

The Advanced Urban Visioning methodology focuses considerable attention on the role *time* plays in a transit system, and on developing systematic approaches to reducing that time. The importance of this is best illustrated by looking at examples from both the *operating cost* side of the ledger and the *revenue* side.

For transit systems, time is money. Even small reductions in operating time can add up to big savings. As an illustrative example, a transit agency may spend $180/hour or more to operate a single bus—$3/minute. A five-minute reduction in a one-hour route can free up $15 on every run, which can allow for tighter scheduling, higher productivity, or budgetary savings. Over the course of many runs on multiple routes, these savings can be significant. An infrastructure investment that reduces travel time by 5 minutes on a heavily used corridor (say, a bus each direction every 5 minutes) can free operating resources valued at over $1.5 million every year (12 buses/hour in each direction over 15 hours/day saving 5 minutes each over the course of 280 operating days/year at $3/minute). This kind of an investment may elude project evaluation criteria if it doesn't appear to generate a lot of new ridership, but its value to the network is what is important here.

For riders, time is more than money—it's a slice of their life. Every 5-minute reduction in a person's one-way commute saves that person a full work week of time every year (10 minutes/day times 5 days/week times 48 work weeks/year = 40 hours). In other words, **5 = 40**. That not only hands back a very important block of time to commuters, the shorter trip is likely to attract more riders—and generate more revenue as a result. Reducing travel time isn't *just* about the bottom line—it's a demonstration of *respect* for the public.

The Seven-Stage Learning Framework



dummy networks and interactive simulations to determine what those instruments can and cannot recognize. Together, these exercises establish both the performance baseline AUV seeks to improve and the strengths and limitations of the tools the region currently relies upon to understand that performance and rank projects.

Stage 2: Learn how the transportation market actually works.

ESSENTIALLY: *What can we learn from existing and potential riders?*

The organization then undertakes deep market research to learn how travelers actually make transportation choices. The purpose is not simply to measure attitudes toward transit or sort people by conventional demographics. It is to:

- *Identify* actionable market segments;
- *Understand* where those segments are located and their trip-making patterns; and
- *Determine* which combinations of travel time, access, frequency, reliability, transfers, comfort, safety, customer experience, and other attributes create or destroy end-user value for each segment.

Qualitative research helps discover attributes and motivations the planning process may not yet be measuring; quantitative research then tests their importance and supports predictive choice models. Regional actors help shape and interpret this work so that the resulting market knowledge becomes shared organizational knowledge rather than an outside consultant's conclusion.

Stage 3: Learn how to use upgraded analytical tools to design more effective transit strategies.

ESSENTIALLY: *How can we put this new knowledge into practice?*

The empirical insights discovered through market research are incorporated into the regional travel model and related exploratory tools so that they can recognize more of what the organization has learned actually drives transportation choice. Market segmentation, segment-specific choice behavior, origin/destination distinctions, customer-experience factors, and more precise measurement of station access can be incorporated where appropriate. The purpose is not model improvement for its own sake. It is to give planners a more capable design environment in which they can explore how changes in project design, network structure, and service attributes alter transit's competitive position and affect different market segments.

Stage 4: Learn how to achieve desired outcomes (without worrying at first about costs).

ESSENTIALLY: *What outcomes are actually achievable?*

Now that planners have market-sharpened modeling and simulation tools, they can explore a range of network configurations and scales to identify which combinations of connectivity, access, service performance, and user experience offer the greatest gains.

This process allows a region to identify its "Prime Network"—the network configuration and service characteristics that maximize the ability to attract transit riders, anchor new development, and meet regional goals. These findings help align existing projects and serve as a benchmark to guide planning choices.

This is a critical departure from conventional planning practice. If the adopted policy objective is, for example, doubling transit's mode share, planners first need to learn what combination of *attributes* is actually capable of accomplishing that.

A Prime Network is *not* a competing regional plan or a proposal to build an unaffordable system. It separates two questions that are often conflated: what *attributes* produce desired outcomes, and only then, how can those attributes be reproduced within realistic resource constraints? The Prime Network serves as a benchmark to help regional actors see which elements of their current strategy are strongest, where the largest gaps remain, and where opportunities lie to move the plan progressively closer to optimal performance within any budgetary environment.

Stage 5: Learn how to produce desired outcomes within budget.

ESSENTIALLY: *How can we produce these outcomes within the budget we actually have?*

Only after the Prime Network is identified do mode, technology, right-of-way, capital cost, and other resource constraints become dominant design questions. These lead to the development of the "Target Network"—a feasible implementation of the Prime Network.

AUV value engineering does not begin by asking which projects should survive a budget cut or be "dumbed down"—it asks which service and network attributes are *essential* to producing the desired outcomes, and how remaining gaps can be closed at lower capital and operating cost without losing those performance-producing characteristics.

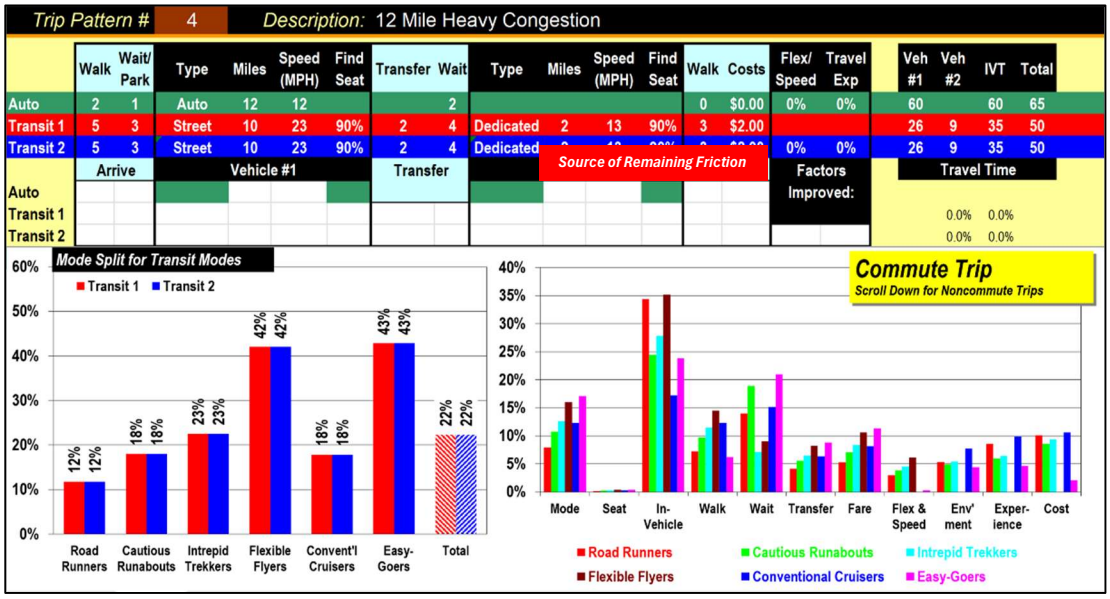


Figure 1. Exploratory Design Simulation Interface. AUV employs tools like this to help planners, both within agencies and within the broader consulting ecosystems, use market research findings to understand market reactions to different transit configurations for a wide range of identified trip patterns.

Project Staging Strategies

Agencies that want to build out robust rail networks frequently run into a familiar roadblock: the lack of sufficient revenue to build out the system. As a result, many regions scale back on or "dumb down" key aspects of their projects to be able to "build something." This results in *second-best infrastructure*—it doesn't produce the desired results, yet still uses up all available resources.

Curitiba, Brazil, offers a great lesson in staging strategies. Their regional plan called for five metro lines radiating out from the downtown core, but their budget was too limited to build more than one short segment at a time. They wanted their subway plan to anchor intensive residential development and couldn't afford to wait many decades for that to happen.

What did they do? They replicated their ideal subway network on the surface using specialty buses running in dedicated busways and serving stations designed to speed up passenger boarding. An overlay express network further slashed travel times for users. The result? A full network of high grade services, an astounding increase in the share of residents commuting by transit, and the luxury to now consider metro projects where the additional capacity is warranted.

This is also where capital is put to work reducing operating costs. Investments that engineer time out of the system lower costs and increase revenues, freeing operating dollars for more frequent and extensive service. The Target Network that emerges preserves the Prime Network's essential attributes at a cost the region can sustain.

Stage 6: Learn how an optimized transit system changes what the rest of the regional plan needs to accomplish.

ESSENTIALLY: *How does more effective transit change the need for road projects?*

The sixth stage evaluates the downstream systemic impacts of a high-performing system. Once transit, bicycle, and pedestrian networks have been optimized around identified end-user value, the region can re-examine the remaining travel market. Rather than treating roadway projects as fixed baselines, this stage looks at how structural mode-shift dynamically redirects automotive demand. This "cascading" evaluation gives a strongly empirical basis for reassessing infrastructure priorities across the rest of the regional network.

Stage 7: Learn how to configure projects that combine complementary investments to both implement the Target Network and produce more of the outcomes the region desires.

ESSENTIALLY: *How can each project accomplish more for the region?*

In this final stage, the region learns how to configure each project so it incrementally implements the Target Network—not a marginal improvement that falls short of it—and combines complementary investments that magnify its impact. Working across jurisdictional silos, agencies and municipalities can exploit capital synergies with utilities, bicycle and pedestrian infrastructure, public space, parklands, and real estate projects, multiplying the return on each investment. Each increment is designed to deliver immediate gains in travel time, connectivity, ridership, or operating cost, while later connectors increase the

value of what's already built. Once learned, this approach can be applied across the region: an evolutionary roadmap in which each step works on opening day.

Evidence from Earlier Applications

Advanced Urban Visioning grew out of several decades of work across functions that are usually handled separately: consumer and market research, travel-demand modeling, network and service design, operating economics, land-use and station-area planning, implementation strategy, and organizational learning. The examples below are not offered as transit prescriptions. They show how different pieces of the learning process produced different strategies in different metropolitan settings.

The Metro Atlanta Transit Strategy. When a comprehensive regional optimization study was commissioned for the Atlanta metropolitan area, the project was modeled explicitly on how a private business would approach a new product launch: understand the customer first and design accordingly. The business community commissioned comprehensive consumer research through Harris Interactive to perform qualitative and quantitative segmentation, while URS Corporation executed the engineering and planning tracks.

The market findings and network analysis led to a 280-mile prioritized network of high-velocity, level-boarding services operating on freeways and major arterials, serving 18 of 19 regional activity centers. The analysis documented a greater than 75% increase in regional commute ridership and a 12% reduction in traffic delays while substantially reducing both capital outlays and system operating costs, producing a nearly 2:1 improvement in ridership per capital dollar invested. The significance for AUV is not the plan itself, but the sequence: understand the customer, identify the attributes that create value, and then explore regional system architectures capable of delivering them.

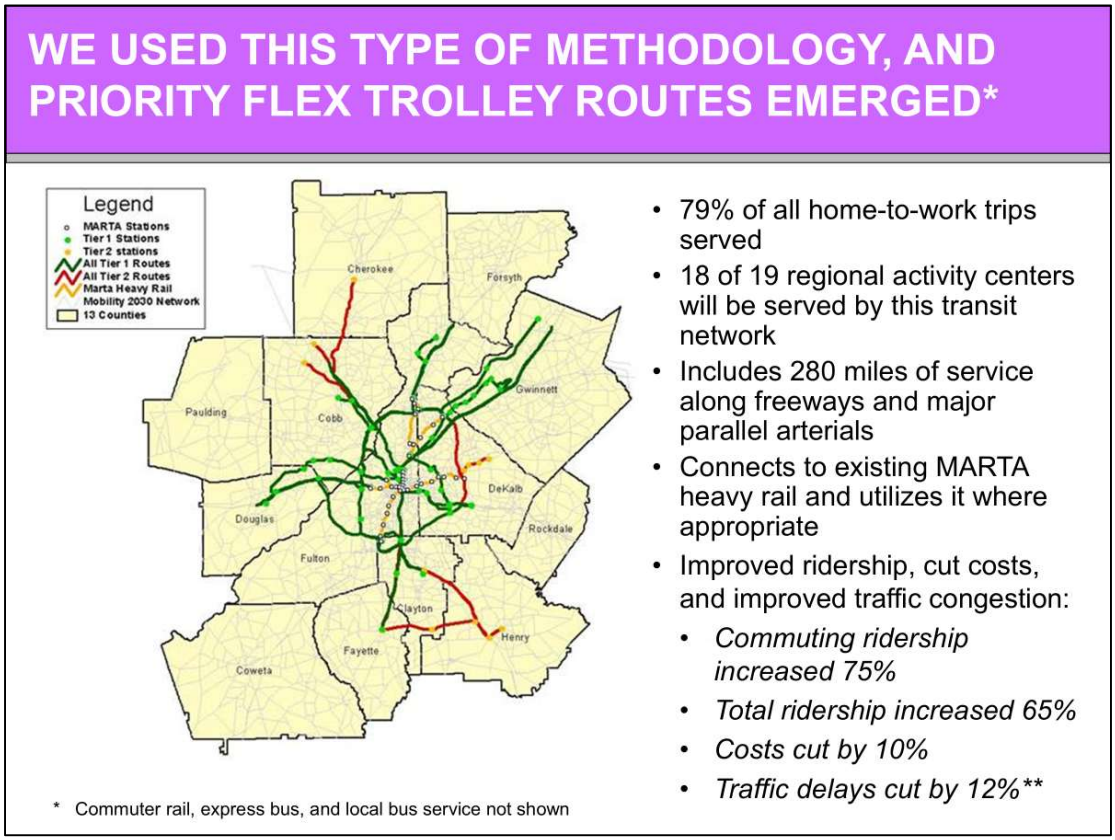


Figure 2: Atlanta: The emergence of a high-value transit network. As one of the earlier applications of Advanced Urban Visioning, the Atlanta business community commissioned the author to lead an effort to produce an "aspirational" transit plan. Extensive technical analysis projected that the new plan would nearly double the effectiveness of transit investments compared to the existing long-range plan.

Source: Cumberland CID, Metro Atlanta Chamber of Commerce, and Perimeter CID, *Atlanta's Transit Future: Market Research Results.*

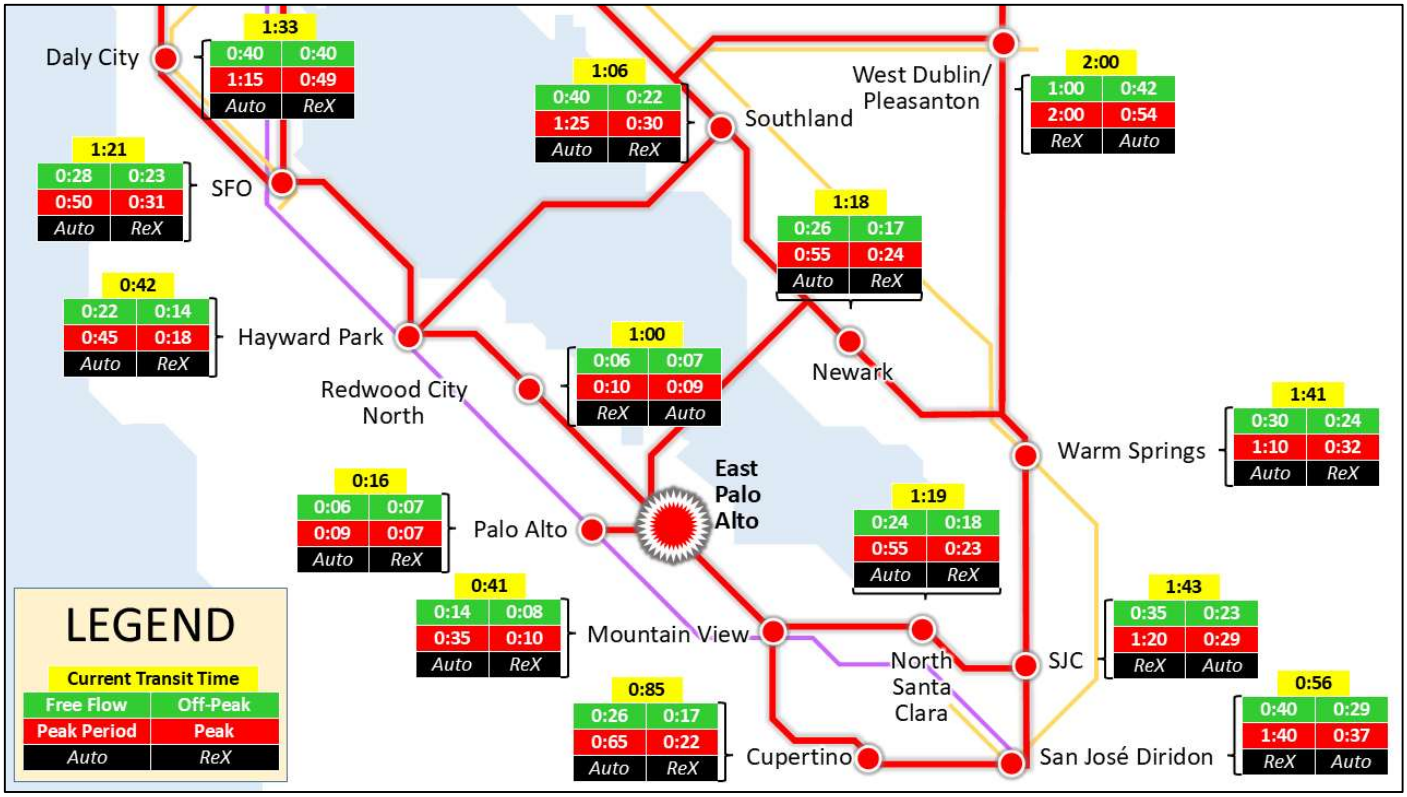


Figure 3: The Bay Area ReX network: creating sustainable competitive advantage. The ReX "regional express" network plan was developed by the author at the invitation of San Francisco's Metropolitan Transportation Commission. It proposed a core network that could compete effectively with driving, then built off this network with direct, non-stop connections to most principal destinations to make the broader region more accessible to most residents.

The Bay Area Regional Express Transit (ReX) Architecture. The ReX framework, developed at the invitation of San Francisco's Metropolitan Transportation Commission (MTC), illustrates a different path through the same learning process. Its architecture emerged from intensive study of regional destinations and residential concentrations, the opportunities created by the express-lane infrastructure then under consideration, and the locations where regional Hubs could connect most effectively with nearby demand generators and existing transit centers. ReX then established a deliberately simple competitive benchmark: locate a set of regional Hubs and link them so that transit travel among these Hubs could offer a sustainable travel-time advantage over driving between Hubs, particularly at peak periods.

The network was developed outward from that competitive-position objective. Hub locations, express links, connecting services, and access to major destinations were treated as parts of one architecture whose value depended on the performance of the whole. ReX therefore illustrates design as inquiry and benchmarking rather than prescription: a clearly stated outcome used to reveal what a high-performing regional network might require and to provide a reference against which existing and proposed investments can be understood.

Inverting the Planning Priority: Optimizing Regional Infrastructure Investments

Advanced Urban Visioning has implications beyond transit planning. Once a region has learned what optimized transit, bicycle, and pedestrian systems can accomplish, those findings change the assumptions used to plan the rest of the transportation system—and can contribute significantly to municipal land-use planning.

The methodological change is straightforward: reverse the conventional order and priority of modal planning. Rather than treating forecast roadway demand as a fixed baseline and then fitting transit, bicycle, and pedestrian improvements around it, first give those modes a serious opportunity to perform by optimizing them around end-user value and regional outcomes. Then

reassess roadway needs using the travel patterns that result.

Where the optimized transit plan produces substantial mode shift, some highway or road projects may require less capacity, a different design, be postponed, or may no longer be justified; elsewhere, the analysis may confirm that roadway investment remains necessary. In this way, learning about transit and other alternatives informs—rather than merely reacts to—road and highway planning.

Simultaneously, this multi-modal inversion provides a powerful diagnostic for regional growth. By identifying Strategic Investment Zones (SIZs)—areas where the optimized network creates significant, identifiable value—the process isolates locations where improvements in connectivity and travel time naturally support more intensive real estate development. Channeled into these synchronized zones, new development maximizes infrastructure output per dollar spent, even further strengthening the regional plan as an engine for coordinated land use. Most critically, a portion of this generated value can be captured and utilized directly by the region to help fund capital projects and offset ongoing operating costs, establishing a path toward long-term fiscal resilience.

Institutional, Political, and Stakeholder Alignment

Regional planning takes place in a fragmented authorizing environment. Elected officials, governments, agency staff, operators, consultants, advocates, and communities legitimately approach the regional plan with different priorities. A major value of AUV is that it gives these participants a shared learning process and a common set of outcome-focused evidence.

Market research, transit-to-auto competitiveness maps, and exploratory design tools make consequential relationships visible to participants. Instead of requiring stakeholders to accept an outside expert's preferred solution, AUV gives them common evidence with which to ask what is and is not advancing the region toward its adopted outcomes.

This can change the character of regional decision-making. Discussion can be amplified beyond competition among individual modes and projects and toward shared questions: Where is transit competitive? Where is it not? What creates value for different travelers? Which investments improve the performance of the network as a whole? Which combinations of investments best advance the outcomes the region has already adopted?

For board members, mayors, and other elected leaders, this shared evidence can clarify what different investment choices would accomplish for their communities:

- Where service could become more useful;
- Where congestion could be reduced;
- Where infrastructure could support development; and
- Which benefits could be delivered sooner.

It also provides a stronger basis for explaining investment priorities to constituents and evaluating how individual projects contribute to regional goals. The process informs these judgments while leaving the decisions with the responsible public bodies.

The AUV process converts market research findings into planning, evaluation, and learning tools. It ties planning to outcomes using visual tools that focus the attention of decision-makers and stakeholders on achieving those outcomes. By broadening the focus beyond modes and projects, AUV can help ensure that the political discussion can build on an objective, shared understanding of what makes a transit system effective—and why, if it achieves its goals, it might even qualify as a greater regional funding priority.

The collaborative framing also matters institutionally. AUV treats model limitations, market uncertainties, and challenges embedded in existing plans as discoveries in a modernization process rather than as evidence of institutional shortcomings. It seeks to leave behind an organization that

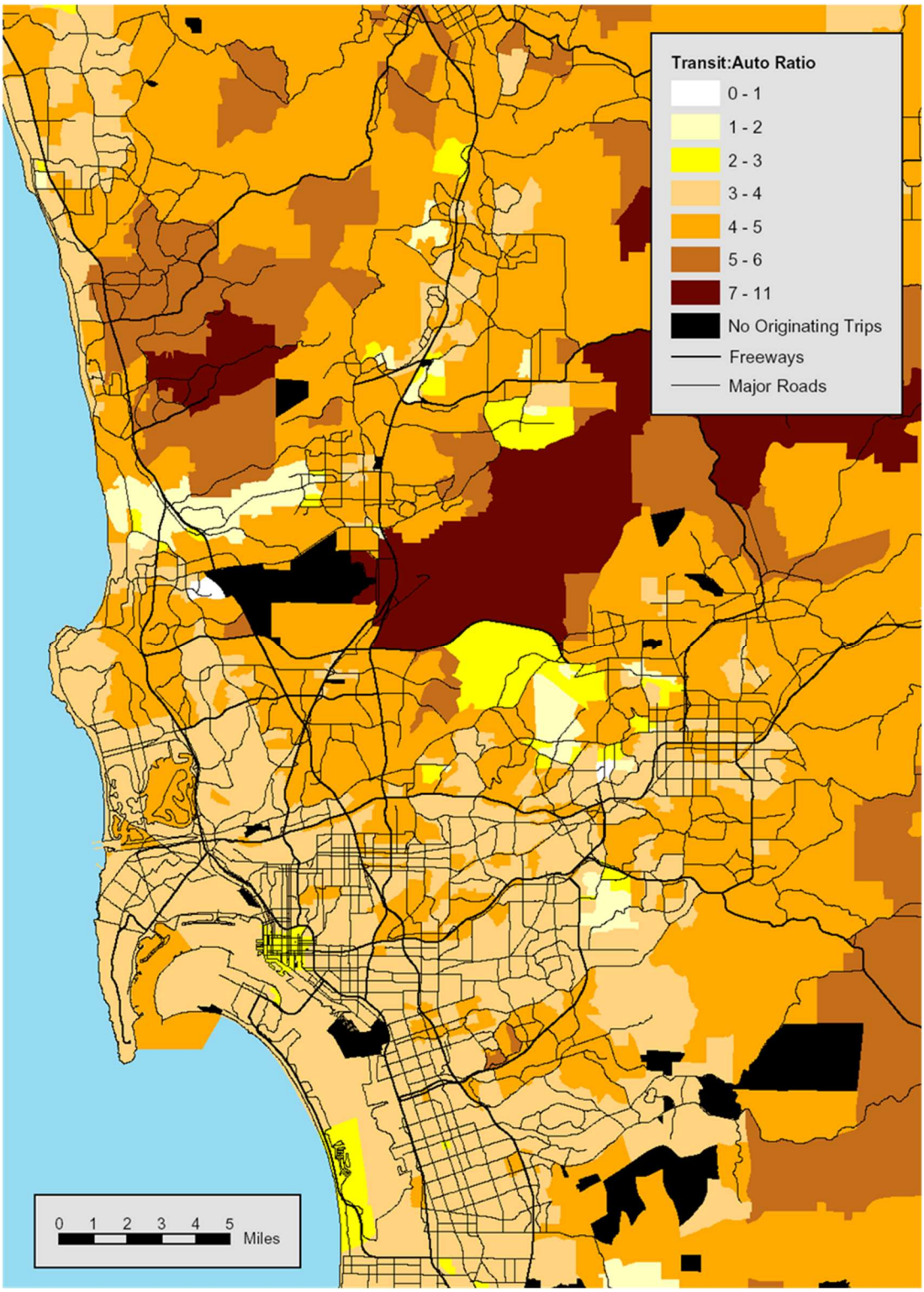


Figure 4: Regional Transit-to-Automobile Competitiveness Map. Mapping the absolute transit-to-auto travel time ratios serves as an active diagnostic tool. It identifies both the immense regional opportunities and market response that current planning processes miss, illustrating the need to expand on legacy modeling to develop more competitive approaches to system effectiveness.

understands its market, understands the strengths and limits of its analytical tools, and that has learned how to use optimized benchmarks to identify the highest-value elements of its current strategy as well as opportunities for continual improvement.

This highlights the utility of Advanced Urban Visioning to Planning Directors across agencies and governments. AUV strengthens the analytical foundation of the established planning process. It helps planning teams identify combinations of

investments that better advance adopted goals, document the reasons for those choices, and develop useful implementation sequences under financial constraints. It strengthens the authority of planning. It does not oppose currently adopted priorities. It helps planners identify additional opportunities to reduce operating costs and increase ridership systematically, and suggests how those opportunities can be incorporated into existing plans.

Beginning the Process: A Strategic Diagnostic Engagement

A region does not need to commit at the outset to a complete multiyear AUV process. A practical first engagement is a focused Strategic Diagnostic Assessment designed to establish whether the methodology can add enough value to justify proceeding. The assessment would bring together executive leadership, modelers, planners, operators, and selected outside participants to examine a limited set of consequential questions.

The scope would be developed jointly around the region's most pressing planning questions, upcoming decisions, and available staff capacity. Beyond system-wide analysis, it can also focus on a limited geography, a set of proposed investments, or a particular challenge involving ridership, operating costs, or network performance.

The initial work would map current transit-to-auto competitiveness, construct carefully chosen dummy networks, stress-test relevant model components, examine operating-cost assumptions, and use exploratory simulations to make model behavior visible. The immediate deliverable would not be a competing plan; it would be a shared diagnostic: what the existing tools reveal, where additional evidence is needed, which questions merit market research, and what improvements to the analytical framework could materially change the region's ability to evaluate its existing plan and future strategies.

The assessment would also identify potentially consequential opportunities revealed by the initial work, the additional evidence needed to evaluate them, and recommended next steps. Executive leadership and the board would thereby gain a concrete basis for deciding whether—and where—further exploration would be worthwhile.

If the diagnostic demonstrates real value, the region can then proceed to deeper market research, analytical improvement, and the subsequent learning processes. The first engagement therefore follows the same principle as AUV itself: learn first, then decide. The advisor brings the cross-disciplinary framework and experience needed to guide the process; the region's own participants develop the knowledge, evaluate the implications, and ultimately own the strategies that emerge.

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To explore what AUV could do for your region, please email Alan Hoffman at alan@urbanvisioning.com

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