



# Memorandum

**Date:** 04.30.09

**To:** Geary BRT Citizens Advisory Committee

**From:** Jesse Koehler – Transportation Planner

**Through:** Tilly Chang – Deputy Director for Planning

**Subject:** **INFORMATION** – Geary Light Rail Roadmap: Summary Findings

## Summary

Pursuant to the 2003 Prop K Expenditure Plan, bus rapid transit (BRT) on Geary must be planned and designed as a “rail-ready” project, such that implementation of BRT will not preclude future conversion of corridor service to light rail transit (LRT). The rail-ready mandate neither supports nor rules out a Geary LRT project; rather, it anticipates the possibility of a future expansion of the light rail network. During the Geary Corridor BRT Study (the Feasibility Study), some corridor and citywide stakeholders voiced support for a Geary light rail project and expressed interest in a more detailed assessment of the issues associated with achieving a light rail solution in the corridor. At the conclusion of the Feasibility Study, the Study team committed to developing a Geary Light Rail Roadmap (the Roadmap). The purpose of the Roadmap is to identify and assess the technical, policy, and funding issues associated with potential advancement of a Geary LRT project. The Roadmap will document the steps that would be necessary to realize light rail on Geary. Finally, the Roadmap will discuss various near- and medium-term activities that would be supportive of eventual prioritization of the corridor for LRT investment. We have initiated the research and technical analysis necessary to complete the Roadmap and have compiled a number of key findings. **We are seeking comments and input from the Committee.**

## BACKGROUND

In 2003, 75 percent of San Francisco voters approved Proposition K, reauthorizing the ½-cent local sales tax for transportation and adopting the New Expenditure Plan (NEP). The centerpiece of the NEP is a network of rapid transit corridors intended to create an integrated citywide network of reliable, high-speed service. The Plan calls for bus rapid transit (BRT) on Geary, “designed and built to rail-ready standards.”

Soon after the passage of Prop K, the Authority, in cooperation with the San Francisco Municipal Transportation Agency (SFMTA), launched the Geary Corridor BRT Study (the Feasibility Study). Through a technical and community analysis process, the Feasibility Study developed and evaluated a set of BRT alternatives for Geary Boulevard. Based on the Feasibility Study analysis, multiple BRT design configurations were shown to provide significant transit performance benefits at an affordable cost. The Feasibility Study recommended further analysis and project development through environmental review of Geary BRT. In 2007, the Authority Board approved the final report of the Feasibility Study and moved to initiate environmental impact analysis. The Authority is currently leading this effort, in partnership with SFMTA.

The rail-ready mandate is intended to neither support nor rule out a Geary light rail transit (LRT) project, rather to anticipate the possibility of expanding the light rail network and reduce potential impacts of LRT implementation by considering such a future conversion in the design of BRT. The Feasibility Study assessed technical issues associated with rail-readiness. The adopted rail-ready approach seeks to minimize risk in light of future uncertainties by ensuring that BRT design standards

accommodate, and do not preclude, conversion to rail. During the Feasibility Study, some corridor and citywide stakeholders voiced support for a Geary light rail project and expressed interest in a more detailed assessment of the issues associated with achieving a light rail solution for Geary. At the conclusion of the Feasibility Study, the Study team committed to developing a Geary Light Rail Roadmap (the Roadmap) to explore the potential for implementing light rail on Geary at some point after BRT is operational.

The purpose of this memorandum is to discuss the purpose of the Light Rail Roadmap and present summary findings. The full technical report will be completed in the coming months.

## DISCUSSION

Geary has long been one of the city’s major multimodal corridors. Following the 1906 San Francisco earthquake, the Geary Street “Park and Ocean” Railway was the first of the city’s then numerous cable car lines to resume service, two months after the quake and ensuing fire. The Geary cable car, which had opened in 1880, was replaced in 1912 by an electric streetcar route, the first line of the Municipal Railway (Muni).

The postwar period was a time of retrenchment for streetcar systems in the Bay Area and across the United States. In 1956, the Geary rail line was replaced by the 38-Geary motorcoach service. Planning for the Bay Area Rapid Transit (BART) system was also underway in the 1950s. However, Marin County eventually opted out of the BART district, scuttling plans for BART to the North Bay via Geary.

**Purpose of the Light Rail Roadmap:** The purpose of the Geary Light Rail Roadmap is to identify and assess the technical, policy, and funding issues associated with advancing a Geary LRT project. The Roadmap will document the steps that would be necessary to realize light rail on Geary. Finally, the Roadmap will discuss various near- and medium-term activities that would be supportive of eventual prioritization of the corridor for LRT investment.

The Roadmap will examine the following topics:

<ul style="list-style-type: none"> <li>• Review of Past Studies</li> <li>• LRT Costs</li> <li>• LRT Conversion Issues</li> <li>• Ridership and Travel Demand Forecasts</li> </ul>	<ul style="list-style-type: none"> <li>• LRT Design and Alignment Issues</li> <li>• Project Development Process</li> <li>• Long-Range Planning and Prioritization</li> <li>• Funding and Fund Programming</li> </ul>
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**Summary Findings:** The Geary Study team has initiated the research and technical analysis necessary to complete the Light Rail Roadmap. This work includes an assessment of findings from past Geary transit-related studies and consideration of project funding and prioritization issues. The following are a number of key summary findings:

1. *The Geary corridor has long been assessed as warranting a major transit investment.* The Geary Transit Task Force, appointed by the Board of Supervisors and the Mayor in 1987, recommended that light rail be pursued in the corridor and identified two general alternatives for further study: an all surface system; and a combination surface/downtown-subway alignment. Given the interest expressed by the Task Force, Geary was identified as one of the multiple corridors eligible for fixed-guideway planning, design, and construction funds in the Expenditure Plan for the original ½-cent transportation sales tax, Proposition B, which was approved by San Francisco voters in 1989.

In 1993, Muni initiated the Geary Corridor System Planning Study (the System Study). The System Study assessed a range of Geary transit alternatives through technical analysis and public input. Ultimately, three “build” alternatives were recommended for advancement into

environmental review—the surface and surface/subway light rail alternatives and a surface/subway electric trolley bus alternative. However, the Public Transportation Commission, which governed Muni at the time, did not move forward, largely due to the lack of a viable funding plan.

The System Study also revealed the significant lack of consensus among corridor and citywide stakeholders for pursuing a major transit investment on Geary. Following the 1989 Loma Prieta earthquake and subsequent demolition of the Embarcadero Freeway, Chinatown and other communities strongly advocated for prioritization of the Third Street/Central Subway corridor for a light rail project.

In parallel with Muni's System Study, the Authority developed the Four Corridor Plan to guide the implementation of the rail service extensions envisioned in Prop B's Expenditure Plan. The Plan, completed in 1995, had a pricetag in excess of \$2 billion (then current dollars), and thus a phased implementation was adopted: the first phase would implement light rail in the Bayshore (Third Street) corridor; Geary was identified as the second corridor for light rail implementation.

At the time of Prop B's passage and the subsequent development of the System Study, there were few cities (even internationally) that had achieved widespread success with lower-cost transit treatments capable of delivering the operating speed, frequency, and reliability of rail. Only after the recognition of BRT systems implemented in major South American cities such as Bogotá, Quito, and Curitiba did BRT begin to gain domestic attention as a lower cost, lower impact, and more quickly-implemented alternative to rail.

As the Prop B program moved through its second decade, several key “signature” projects were advancing and in need of firmer funding plans; some important categories in the Expenditure Plan, such as Bicycle and Pedestrian Improvements, were rapidly running out of funds; and other needs lacked funding categories altogether (e.g., traffic calming). In 2003, the Authority developed the NEP for a reauthorized local sales tax for transportation. The Authority Board appointed a 21-member Expenditure Plan Advisory Committee (EPAC) to guide development of the NEP. The EPAC deliberated intensely and ultimately cast a unanimous vote to recommend adoption of the final program.

The Geary corridor was considered for light rail during the crafting of the NEP. The Authority concluded, and the EPAC acknowledged, that it was not financially feasible within the confines of the NEP's 30-year revenue stream to implement LRT on Geary and also keep pace with the maintenance and expansion needs for other priority transit corridors. The prioritization of Geary for BRT investment is a reflection of the need to deliver a substantial transit investment on Geary cost-effectively and in the near-term, as part of a citywide network of transit improvements. The Geary BRT Feasibility Study established the ability of BRT to meet anticipated transit demand in the corridor given expected land use and travel changes; this will need to be monitored and evaluated as BRT operations commence and grow.

2. *Light rail investment is extremely costly, particularly if a portion of the corridor utilizes a subway alignment.* In 2007, updated conceptual cost estimates for the two light rail alternatives studied in the System Study were prepared in conjunction with the BRT Feasibility Study. When escalated to a future year, 2025, capital costs associated with an all-surface and a surface/downtown-subway light rail alternative are approximately \$2.5 and \$5.0 billion, respectively. This is substantially higher than initial estimates for BRT on Geary, which range between \$157 million and \$212 million. Projects with capital costs greater than \$250 million must compete in the Federal Transit Administration's (FTA) discretionary New Starts program, which is highly competitive and requires a lengthy project development process (see point No. 5, below). Cost-

effectiveness, as expressed by user benefits per dollar of total project cost, is a crucial criterion in FTA's evaluation process; many rail projects struggle to maintain a sufficient benefits rating and/or assemble a competitive level of local match (such as the BART to San Jose project). For this reason, Congress encouraged the development of lower-cost transit improvements through the creation of the Small Starts program in 2005 as part of SAFETEA-LU surface transportation act.

3. *Future public involvement efforts must address key public concerns and build corridor consensus.* Although there is interest among many stakeholders in eventual implementation of LRT in the Geary corridor, there is also some significant resistance to doing so. The reasons for this opposition, like the corridor itself, are diverse—in the past, major concerns have included construction impacts, traffic congestion, densification fears, aesthetic considerations, and other issues. Some stakeholders have expressed a preference for other build alternatives, such as a BART subway or a light rail subway for the full length of Geary; other groups have advocated an operational approach and prefer that no major transit investment be made in the corridor. Developing community support and consensus on the project is a key factor in seeking local and regional prioritization, which in turn is necessary for seeking Federal funding for the project (see point No. 6, below).
4. *LRT development in the Geary corridor would represent a major expansion of Muni operations and require a sustainable operating and maintenance plan to ensure that the service does not result in system impacts.* A Geary LRT project would necessitate an expanded fleet of light rail vehicles, provision of significant new facilities capacity, and the identification of substantial new annual revenue to support the higher operating and maintenance costs associated with LRT service.
5. *Advancing a Geary light rail project would require navigating a complex project development process over the course of many years.* Realizing a major corridor-long rail project in an already urbanized location can be expected to take well over a decade. Major project phases are as follows: corridor planning and conceptual engineering, environmental review, preliminary engineering, final design, right-of-way acquisition, and construction. Sufficient funding to undertake planning and design activities<sup>1</sup> must be obtained, and as project phases proceed, a full funding plan for building and operating the system must be developed.

As mentioned above, the lengthy project development process for a major transit capital project is heavily influenced by Federal requirements for planning and design, and seeking discretionary funding through FTA's *New Starts* program. FTA's project management oversight role formally begins with the project sponsor's request to initiate preliminary engineering and continues through the construction period. Nationally, the demand for New Starts funding is high, and there is a large "pipeline" of projects under development that plan to seek Federal capital funding. The intense competition for New Starts dollars—doled out pursuant to FTA's detailed evaluation process—means that the Federal program rarely funds more than 50 percent of a project's total capital cost.

6. *Major transit projects must be prioritized at the local and regional levels in order to be competitive for funding.* The Regional Transportation Plan is the Bay Area's long-range transportation plan, which establishes the region's transportation investment priorities for the next 25 years. Development of the RTP is the responsibility of the Metropolitan Transportation Commission (MTC). As San Francisco's "subregional" transportation planning agency, the Authority provides input into

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<sup>1</sup> The New Expenditure Plan contemplates up to \$55 million for environmental studies and preliminary and detailed engineering of Geary LRT; however, these funds are designated in Priority 3. All Priority 1 and Priority 2 projects must obtain 100 percent funding before Priority 3 projects can be funded by Prop K.

the RTP process on behalf of San Francisco. This input is guided by the Authority's Countywide Transportation Plan analysis and project priorities. The long-range plans observe a fiscal constraint such that planned investments are limited by the amount of funding that is forecast to be available over the plan lifetime. Inclusion in the financially-constrained RTP is a critical project development milestone and is a prerequisite for receiving limited State and Federal transportation dollars.

The region's priorities for transit expansion are articulated in MTC's Regional Transit Expansion Program, known as Resolution 3434. First adopted in 2001, Resolution 3434 sets the region's priorities for transit capital funding, including Federal New Starts funding. San Francisco's current light rail expansion priority is Muni's Central Subway, which is scheduled to begin revenue service in 2018.

The Geary LRT project is not included in the Countywide Plan or the RTP; some groundwork exists for future local prioritization of such a project. The corridor has been identified in various past studies, including the Four Corridor Plan and Muni's 2002 Vision Plan. SFMTA's Short-Range Transit Plan (SRTP) acknowledges that a Geary LRT project would be a likely priority for light rail expansion after the Central Subway. That said, the project would need to compete for prioritization and funding not only regionally, but locally as well, in light of other potential transit capital projects, such as the potential extension of the Central Subway beyond Chinatown, the Transbay Terminal/Downtown Caltrain Extension project, future BRT and preferential transit corridors, and other projects.

7. *Demand for major transit investments is high, and transportation funding to support such projects is increasingly scarce.* Total costs for the Resolution 3434 program of projects are \$17.4 billion, with a funding shortfall of \$3.8 billion. The 2008 SRTP's 20-year Muni Capital Investment Program has a total cost of \$18.3 billion, with total identified funding of only \$9.3 billion (though much of the shortfall occurs after 2020). MTC's 2007 Regional Rail plan, which studied rail improvements in regional corridors, has an estimated capital implementation cost of \$50 billion for a package of rail investments that could be realized by 2050, with very few identified funding sources.

Under the current Federal transportation act, the New Starts program (including Small Starts) is authorized to grant approximately \$1.5 billion annually to projects across the country. At the State level, most transportation funds are devoted to maintenance and operations on the California State Highway System. Discretionary capital funding from the state has been extremely limited in recent years, and budget crises have resulted in multiple "raids" of State transportation funding programs to close general budget gaps, including the zeroing out of the State Transit Assistance (STA) operating fund program and the temporary suspension of gasoline sales tax contributions to the State Transportation Improvement Program (STIP, the primary State funding source for capital projects).

Given the grim funding picture and the need to identify significant local monies to realize a major transit project, the development of new funding sources is important. Various emerging strategies are being studied and tested across the country, particularly as decision-makers confront the long-term decline and erosion of gas taxes as the nation's primary transportation funding mechanism. Examples of such strategies include mileage-based fees, congestion pricing, toll-finance measures, and joint development approaches, among many others. The development of new locally-generated and/or locally-controlled transportation funding is particularly important, both to provide local contributions to capital investments and to help provide sufficient ongoing funding for maintenance and operations.

8. *Despite the near- and mid-term infeasibility of implementing light rail in the Geary corridor, there are some activities that would be supportive of eventual prioritization of the corridor for LRT investment.* Perhaps the most important of these tasks is to continue to maintain and cultivate ridership in the corridor and to build public support for improvement of Geary’s transit service. BRT has the potential to demonstrate the benefits of a fixed-guideway investment for Geary, particularly in a corridor where some vocal stakeholders have advocated a “do-nothing” or do-minimum approach. Although ridership on Geary is already robust, land use planning efforts at Japantown and at other opportunity sites could further help “make the case” for regional and FTA support, both of which emphasize integration of transit investments with transit-oriented development and economic development initiatives.

Finally, increased overall funding levels and the wider deployment of new funding approaches is necessary to meet current and future transportation needs and investment priorities. Although it is unlikely that any new funding approach would be implemented solely to support a Geary light rail project, the successful development of new funding strategies—including at the local level—will be crucial to advancing transit investment and expanding the number of major projects that can be developed and implemented in San Francisco and the Bay Area.

In short, although Geary LRT may be technically feasible to design or implement, the advancement of such a project would require addressing numerous issues and challenges. Pursuing a lengthy and complex project development process would be necessary. All of these activities can be roughly grouped into three categories: 1) undertaking further technical tasks; 2) addressing policy issues and fostering project support; and 3) identifying, seeking, and securing project funding. This full set of technical, intergovernmental, and financial activities is undertaken in order to advance a project to sufficient *project readiness*—ultimately indicated by a project that is environmentally-cleared and fully-funded, with both public and institutional support.

**We are seeking comments and input from the Committee.**