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**Transit Infrastructure  
Finance Through  
Station Location  
Auctions:**

A Discussion of Stakeholder  
Concerns Related to a  
Proposed Value Capture  
Mechanism

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**Fall 2008**

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**Transit Infrastructure Finance Through Station Location Auctions:  
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## Introduction

With increased interest in new transit systems for congestion relief, or pollution mitigation and limitations on the amount of funding available, governments and planners are looking at many new ways to finance transit infrastructure. One method being pursued is capturing some of the value conferred to sites when transit is introduced. This paper discusses a proposal to capture that value through a market based bid process, examines means of overcoming several related stakeholder issues, and discusses potential pilot project sites.

As early as 1826, German economist Johann Heinrich von Thünen developed a theory that transport adds a measure of accessibility and value to a site. Research has continued for almost two centuries and UC Berkeley professor Robert Cervero has conducted several studies that identified a ten percent premium for locations that have enhanced accessibility due to transit's proximity.<sup>1</sup> Capturing this value, though rare, is typically achieved through standard local finance mechanisms like property tax levies, assessment districts, and TIF.<sup>2</sup> These methods have seen limited implementation as each presents significant issues for policymakers, transit operators, and the public, when compared to alternative grant funds from state or federal transport departments.

In hopes of finding a new value capture alternative, this paper explores the possibility of a market-based bid system where property owners volunteer a portion of the anticipated increase in value to deliver the property enhancing transit infrastructure. These "bids" would help determine the optimal location for transit based on a cost/benefit analysis of various route and station alignments. This concept was originally developed in the author's graduate thesis research at the Department of City and Regional Planning. Subsequent coursework outlined the process, identified stakeholders, and proposed techniques to mitigate potential stakeholder concerns. Important conclusions include identifying a need for a non-profit oversight entity to coordinate implementation and a focus on proposed transit systems that do not qualify for federal funding grants.

This paper summarizes this prior work and enumerates conclusions. Though expanded versions have been produced, results are communicated primarily in table format. It is hoped that this summary will provide a thorough overview for anyone interested in the Station Location Auction concept and its potential implementation as a transit infrastructure finance mechanism.

## Station Location Auction Overview

To provide new transit service, and to pay for it using some of the value conferred to nearby properties, a transit agency could identify a new transit route, or routes, but would not select the final station locations.

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<sup>1</sup> Cervero, Robert et al.; "Assessing the Impacts of Urban Rail Transit on Local Real Estate Markets Using Quasi-Experimental Comparisons"; *Transportation Research*, 27A, 1:13-22, 1993

<sup>2</sup> Fogarty, Nadine; "Capturing the Value of Transit"; Center for Transit Oriented Development; November 2008

The locations would be decided through a bid process, or Station Location Auction (SLA), in which route-adjacent landowners offer funding to locate new stations near their landholdings.

SLA is a variant on standard Public Private Partnerships (PPP). Typically, parties entering PPP each bring distinct capabilities to the partnership. For instance, government's ability to issue bonds or execute eminent domain, and the private sector's inherent agility and ability to shoulder risk. SLA relies on a PPP in which several private entities bring cash or payment guarantees to the partnership—their distinct capability—in exchange for transit service to their properties—the core capability of the transit agency. In essence, private entities offer to pay for part of transit infrastructure costs in exchange for the property value enhancements that come with new transit service.

Hypothetically, a transit agency, or its proxy agent, might conduct several diligence and pre-approval processes for a broad set of station location permutations along a route, parallel routes, or several branches and loops extending from a primary trunk route. A large number of station location options, and therefore a large number of positively impacted properties, would produce a broad marketplace for the bid process. One might expect that with increased competition, the bid prices would more closely reflect the actual value imbued by the proposed transit infrastructure. Under assumptions of standard economic theory, the bids that landowners are willing to pay should approach the land value increment generated by the proposed transit investment.

The auction entity would issue bidding instructions and conduct an outreach campaign. Landowners along the proposed route could work independently to produce a bid or they may partner with an experienced developer that could take greater advantage of the opportunities. Property representatives would establish a value that they would be willing to pay to have a transit stop in one of the locations the transit agency identified. The bidders could develop one-time payment offers or establish agreements to pay over time.

Upon receiving bids, the auction entity would combine the proposed monetary benefits with a model of the transit operations and capital costs for various station alignments. Using a cost-benefit decision analysis, the transit agency and local governments would be able to select the station location bids and overall transit system design that best met their transit goals. They would then use the associated bid funds to offset the cost of implementing the transit infrastructure along the optimal route.

### **What Concerns Arise?**

This paper discusses three stakeholder groups in the SLA process: Sponsors, Auctioneers, and Bidders. Politicians and their constituents (Sponsors), may be attracted to the SLA concept by transit provision itself, although they may be skeptical of a public project being influenced or “purchased” by the private sector. Local government and transit providers (Auctioneers), may be attracted by growth-enabling transit and reduced capital outlays but may be deterred by risks associated with conducting an auction. As well, the

development community (Bidders), would be motivated to participate by profits but may be skeptical of aspects of the bid process. A broad overview of concerns was conducted and the outcome of this analysis is summarized in Table 1.

**Table 1: Stakeholder Reasons to Support or Oppose Station Location Auction**

	<b>Politicians &amp; Voters (Sponsors)</b>	<b>Government &amp; Transit (Auctioneers)</b>	<b>Developers (Bidders)</b>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• No new taxes</li> <li>• Higher likelihood of transit delivery               <ul style="list-style-type: none"> <li>• Congestion mitigation</li> <li>• Predictably priced transport v. car</li> <li>• Economic development</li> <li>• Environmental concerns</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Allow urban growth               <ul style="list-style-type: none"> <li>– Overcome restricted access to certain sites</li> <li>– Meet housing goals</li> <li>– Meet environmental standards</li> </ul> </li> <li>• Unrestricted funds</li> <li>• Offsets local costs</li> <li>• More appropriate than alternative tax sources</li> </ul>	<ul style="list-style-type: none"> <li>• Higher rents and sales prices</li> <li>• Greater density</li> <li>• Access to new sites</li> <li>• Reduced vacancy and marketing costs</li> <li>• Lower parking requirements</li> </ul>
<b>Concerns</b>	<ul style="list-style-type: none"> <li>• Private sector influence</li> <li>• Fiscal risks</li> </ul>	<ul style="list-style-type: none"> <li>• Management capability</li> <li>• Cost of auction</li> <li>• Poor cost coverage</li> <li>• Delayed transit implementation</li> <li>• Perception of transit as government provided public good</li> <li>• Loss of other funds</li> <li>• Bid risk               <ul style="list-style-type: none"> <li>– Collections risk</li> <li>– Suboptimal station sites</li> <li>– Development timing coordination</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Uncertain benefits</li> <li>• Opposed to government</li> <li>• Expect transit to be built nonetheless</li> <li>• Delayed transit implementation</li> <li>• Payment required prior to transit service starts</li> <li>• Delayed owner-occupied value enhancement</li> </ul>

Having enumerated these issues or concerns, they can be addressed when proposing an SLA procedure and organizational structure. The next section addresses the “Concerns” listed in Table 1 in an effort to define the mechanism form and an optimal situation suitable for a SLA test-run.

## Addressing SLA Concerns

Stakeholders may have substantial concerns about entering into an SLA process. Many concerns can be avoided by filtering out projects that are unsuitable for SLA and addressing additional concerns with a set of actions that avoid, minimize, or mitigate stakeholder issues.

An example concern, one held by both Sponsors and Auctioneers, is the risk that an SLA will conflict with other financing options or offset fewer costs than a state or federal funding alternative. Concerns about the loss of alternate funding are related to the United States' standard transit infrastructure finance regime in which extensive matching funds are provided by state and federal transportation agencies to local transit agencies implementing new transit infrastructure. For instance, the Federal Transit Administration oversees the Small Starts Program, a 1:1 matching funds program for locally developed, small-scale transit projects.<sup>3</sup> The sponsors of an SLA process must be sure that conducting the auction process will help yield greater capital cost coverage than they could anticipate receiving from a source like the Small Starts Program.

A conundrum exists in trying to mix SLA and standard transport funding programs. Before the Small Starts Program and most other state and federal funding programs will begin to consider a transit project for funding, the project must have gone through a local planning process, approval by the Metropolitan Planning Organization, preliminary engineering, and complete NEPA scoping. Thus, an SLA must occur first and the chosen route must be subsequently approved by the regional body, analyzed, and environmentally reviewed before it can be evaluated by federal and state funding agencies.

Under these circumstances, the sponsor would not know an estimate of the state and federal funding available for their project until a great deal of cost and energy is sunk into the SLA process. Again, this is because an SLA requires that the route and station locations be determined by the SLA bids while MPO approval and NEPA scoping require a defined route and station layout. Executing SLA in the face of this issue would require substantial trust and dedication to SLA on the part of local sponsors because the auction, as the first step, could take several months or years to complete, delaying their Small Starts funding application and impairing their opportunities for state or federal funds.

This conundrum contributes to the minimal use of complex value capture mechanisms today. State and federal funding, while limited and associated with burdensome project requirements, can be relatively low risk and low cost. As a Bay Area Rapid Transit District (BART) employee explained at a recent conference, "It

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<sup>3</sup> "Small Starts Program"; [http://www.fta.dot.gov/planning/newstarts/planning\\_environment\\_222.html](http://www.fta.dot.gov/planning/newstarts/planning_environment_222.html); Accessed on 11/28/08



may take longer, but it's easier to resubmit an FTA application five years in a row and delay the start of your transit project than it is to complete all the relationship and finance work that's required for value capture.”<sup>4</sup>

In the face of this implementation climate, SLA is not a viable option for projects that potentially meet state or federal funding guidelines. Thus, it is likely that SLA will be an attractive infrastructure finance option for transit projects that have extremely low likelihood of receiving significant state or federal funds or have failed in their efforts to receive alternative funding. In such a case, an SLA would be a community's primary hope for financing new transit infrastructure.

Pursuing projects with failed state and federal funding applications is a proposed filter that will help screen for a viable SLA implementation opportunity. There are many other concerns and similar actions and filters that should be taken. A list of proposals addressing stakeholder concerns is listed below in Table 2.

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<sup>4</sup> Discussion at Rail~Volution with Bruno Peguese, Senior Real Estate Officer, BART Property Development; October, 2008

**Table 2: Proposals to Avoid, Minimize, or Mitigate Stakeholder’s SLA Concerns**

<b>SLA Stakeholder</b>	<b>Concerns</b>	<b>Proposed action or filter</b>	<b>Reason</b>
Politicians & Voters (Sponsors)	Private sector influence	Identify political champion & invested constituents	Champion can be held accountable and citizen watchdogs can elevate issues
	Fiscal risks	Utilize assessment districts & Pursue projects with failed funding applications	See “Loss of other funds” & “Collections risks” below
Government & Transit (Auctioneers)	Management capability	Establish non-profit bid-management agency	Can gain experience across country & is neutral 3 <sup>rd</sup> party
	Cost of auction	Pay for auction using proceeds	Minimizes upfront burden, fees may motivate auction agent
	Transit as government provided public good	Identify political champion	Self-motivated to conduct SLA outreach and education
	Delayed transit implementation	Screen for manageable environmental requirements	Environmental requirements and lawsuits lead to variability in implementation time
	Infrastructure cost-coverage	Pursue low-cost transit options & screen for credit rating	Low-cost transit reduces denominator of revenue/cost ratio & credit rating determines lenders Debt Coverage Ratio
	Loss of other funds	Pursue projects with failed Fed/State funding applications	Avoid all competition with other fund sources
	Collections risk	Utilize assessment districts	Proven with built-in risk abatement
	Suboptimal station sites	Involve transit agency in bid review	Transit agency can propose optimal transit alignments
	Development timing coordination	Establish benchmarks for transit deployment	Avoid inefficient transit stops at underdeveloped stations
Developers (Bidders)	Uncertain benefits	Identify a supportive developer	Let development community establish trust
	Opposed to government	Establish non-profit bid-management agency	Avoids government skepticism
	Expect transit to be built nonetheless	Identify numerous route and station options	Increased options reduces surety that transit will be built
	Delayed transit implementation	Screen for manageable environmental requirements & single jurisdiction	Environmental requirements impact process timeline & jurisdictional conflicts can add significant planning and bid/route selection delay
	Payment required prior to transit service starts	Utilize assessment districts	Common infrastructure finance tool for developers and reduces upfront costs
	Delayed owner-occupied value enhancement	Focus on strong real-estate markets	Allows for refinancing or sale of assets to recognize transit related profits

The primary concerns of Sponsors, Auctioneers, and Bidders can be addressed with just a few measures. Focusing SLA on projects that have low probability of receiving state and federal funds is an example action that can address a concern for both Sponsors and Auctioneers.

Addressing the concerns that might be raised by various stakeholders in the SLA process can be a monumental undertaking and may even require the establishment of a special non-profit entity. However, the task may not be so great in situations where conditions are ripe for SLA. Utilizing lessons learned in the preceding analysis on stakeholder concerns, the next section identifies key conditions for a successful SLA test-case.

**Where is an ideal test case?**

Based on stakeholder issues and proposed actions and filters, a list of conditions can be enumerated describing the necessary factors present for an SLA to be successful. For example, profit being the primary motivator for bid submission, a strong development and transaction market is required so that developers can profitably build near new transit stations and existing owners can sell or refinance their buildings post-transit implementation to realize the increase in value. A list of conditions is provided in Table 3.

**Table 3: Optimal Conditions for Station Location Auction Implementation**

Screens for SLA Implementation
Existing assessment district law
Existing demand nodes
Good credit rating
Invested constituents
Limited State or Federal funds available
Low cost transit
Manageable environmental requirements
Motivated political champion
Numerous route and station options
Strong real estate market
Supportive developer
System in single jurisdiction

Looking at ripe SLA opportunities in the Bay Area, there are several large master developments in planning that will require new transit infrastructure to unlock their development density potential. Both the Concord Naval Station<sup>5</sup> & Alameda Point<sup>6</sup> base redevelopments will be major projects and may have a “Supportive developer.” The projects could anchor one end of a system that could utilize multiple route alternatives—

<sup>5</sup> “City of Concord”; <http://www.cityofconcord.org/>; Accessed on 11/28/08

<sup>6</sup> “Alameda Point homepage”; <http://www.alamedapointcommunity.com/>; Accessed on 11/28/08

“Numerous station options”—to reach their respective employment centers in downtown Concord and Oakland—“Existing demand nodes.” The demand would likely be suitable for Bus Rapid Transit, a “Low-cost transit” option. In addition, the Bay Area has “Limited funds available” for new transit projects.

While all this is true, California has unmanageable environmental requirements that would generate a major cost burden for the extensive environmental review SLA may require. Additionally, the risk of lawsuits during the CEQA process and related project disruptions could deter developers from making bids. States besides California and countries besides the United States may provide more opportunities for a viable SLA pilot project.

A potential pilot project could be located in Mexico City, Mexico.<sup>7</sup> The Centro Comercial Santa Fe is a car-oriented master-planned business district with over 70,000 jobs and no fixed-stop, dedicated right-of-way transit service. In spite of boisterous daytime activity and ever-present traffic jams, the area is best known for its failing commercial centers and dark and empty state at night. Santa Fe has Mexico’s largest mall and is one of the city’s largest employment centers but it is located on the edge of the Distrito Federal, disconnected from the trendy Polanco district, retail-rich Paseo de la Reforma, and the historic heart of Mexico City.<sup>8</sup>

The property owners of existing buildings in Santa Fe would benefit greatly from new transit service. While the State of Mexico is growing rapidly, restrictions in the central city have frozen development but a strong real estate sub-market could be jumpstarted if transit were to enable modified height limits and other land-use controls along a transit corridor between Santa Fe and the historic center. Bus Rapid Transit, a low-cost transit option, would be a substantial improvement over current jitney services and standard traffic-hindered public bus service

Continuing down the list of conditions for SLA success, Mexico City has extremely high transit patronage and the population has responded positively to prior efforts made by politicians to implement BRT service—Transit friendly constituents.

Mexico City is the world’s largest city and the density allows for numerous stop locations along a multitude of routes between Santa Fe and the historic center. Additionally, connecting Santa Fe with the historic center would provide significant transit demand and allow for attractive service levels from the outset—Numerous route and station options and Existing demand nodes.

While Mexico City may or may not have a good credit rating, some of its prior transport investments were actually financed with loans from the Inter-American Development Bank because of a lack of federal funding. Assessment district revenues could be used to pay IADB debt service.

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<sup>7</sup> Montgomery, Brittany; Interview with international Bus-Rapid Transit consultant (UC Berkeley DCRP graduate); 11/28/08

<sup>8</sup> “Mexico City Virtual Guide”; <http://www.mexicocity.com.mx>; Accessed on 11/28/08

While it isn't clear that any developer would rise to be a supportive developer in Mexico City, it does seem probable that some of Santa Fe's struggling retail properties could lead off the bid process because of the potential impact the system could have on their sales.

The proposed pilot project would be wholly in the jurisdiction of the Distrito Federal—System in single jurisdiction. The project would also be subject to Mexico's manageable environmental requirements and may be seen as a viable mitigation strategy in heavily polluted Mexico City.

For full disclosure, the author was not able to determine if existing assessment district law existed in Mexico City, nor could they verify that a political champion existed. While it is not entirely clear that a Mexico City pilot project would succeed, the example illustrates how optimal condition might be met for an SLA test-run. A comparison of the Mexico City and Bay Area proposals is illustrated in Table 4 below.

**Table 4: Comparison of Screening Criteria for Three Potential SLA Pilots**

Screens for SLA Implementation	Alameda Point	Concord Naval Station	Santa Fe D.F., MX
Motivated political champion		✓	
Strong real estate market	✓		✓
Transit friendly constituents	✓	✗	✓
Numerous route and station options	✓		✓
Existing demand nodes	✓	✓	✓
Existing assessment district law	✓	✓	
Good credit rating	✓		
Limited State or Federal funds available	✓	✓	✓
Low cost transit	✓	✓	✓
Supportive developer	✓	✓	✓
System in single jurisdiction	✗	✓	✓
Manageable environmental requirements	✗	✗	✓

## Conclusion

The Station Location Auction concept is an intriguing market-based value capture mechanism. Stakeholder concerns are significant and must be addressed. For instance, utilizing assessment districts to collect bids reduces concerns about collection rates and paying for transit in advance of transit implementation.

Establishing a third-party non-profit to manage auction processes helps developer confidence and reduces cost burden on Auctioneer entities. The accommodations or adjustments could require significant effort on the part of proponents of SLA use. However, there are significant benefits associated with SLA that may make the effort worthwhile, especially if there are limited alternative transit infrastructure finance options.

Analysis of the stakeholder concerns and means of addressing them also helped to generate a list of optimal conditions for SLA implementation. For example, a political champion and a supportive developer must be present to address concerns, educate people, and excite their respective peer groups. A proposed BRT between Mexico City's Santa Fe employment center and the historic downtown illustrated how these conditions might be evaluated when identifying an SLA project.

While this paper begins to describe an auction process, further analysis needs to be conducted. For instance, a financial feasibility analysis needs to be conducted to ensure that Station Location Auctions can produce adequate infrastructure finance funds through assessment districts. Additionally, the concept of a non-profit entity could be vetted with transit agencies. Significant questions remain and deserve investigation because this concept may be very compelling for transit agencies seeking funding in a very constrained funding climate and with increasing demand for transit infrastructure.

The Station Location Auction concept is an intriguing market-based value capture mechanism. Stakeholder concerns are significant and must be addressed. To mitigate or avoid such concerns, certain optimal conditions should be present. Perhaps an ideal situation with all of these conditions will be identified and transit project can be developed using Station Location Auction as the primary transit infrastructure finance method.



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