

From Intentions to Consequences: San Diego TOD Design Guidelines and Rio Vista West Project

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Introduction

Urban design and planning initiatives are filled with well-meaning intentions, such as the preservation of historic assets, creation of compact and walkable residential neighborhoods, generation of low-energy and low-impact patterns of development, and types of urban form that promote greater choice in modes of transportation, including access to public transit. However, what matters ultimately are the consequences, more than the intentions, of such efforts. In other words, a key measure of the relative success of such initiatives is whether they have actually had an impact once they are implemented and built. Thus, it is important to understand the on-the-ground impact of well-meaning urban design guidelines as they are translated into built form, as well as the effectiveness of mixed-use transit-oriented developments located within low-density automobile-oriented contexts.

Purpose of Research

This research project examines the relative effectiveness and subsequent impact of two pioneering and related urban design initiatives. In 1989, the City of San Diego became one of the first American cities to propose citywide transit-oriented development (TOD) design guidelines. Formally adopted by the city as public policy in 1992, the TOD Design Guidelines were intended to pursue an urban form that includes a pedestrian-oriented, mixed-use multimodal transportation environment. In 1992, the Rio Vista West project was conceived as the first new transit-oriented development project in San Diego. Completed in 2006, Rio Vista West contains over 1,000 residential units, 325,000 square feet of retail development, 165,000 of office space, and amenities such as a 2-acre park and a day care center.

About the Author

Aseem Inam is Associate Professor of Urbanism at Parsons The New School for Design in New York City, and Fellow at the Center for Ethics and Transformative Values at MIT in Cambridge, Massachusetts. He is currently working on two major research projects. One is a study of the city design and city building processes in Las Vegas as a prism for understanding contemporary American urbanism, while the second is the articulation of a transformative approach to urbanism through major shifts in conceptual thinking and creative practice.

In 2010, Dr. Inam was a member of a team invited by the Government of Haiti to design a rebuilding strategy for the country following the devastating earthquake in January. Prior to that he was a project leader for urban design and planning projects in California, the Caribbean, Idaho, and New Mexico with the award-winning firm, Moule & Polyzoides Architects and Urbanists, based in Pasadena, California. He has also worked in urban regeneration projects in Detroit, in campus planning for the University of Southern California, in urban design for the City of St. Louis, and as a consultant for the pioneering India Habitat Centre urban design project in New Delhi. Early in his career, he was the founding Architect-In-Charge of the Rural Habitat Development Program for the Aga Khan Development Network in the Gujarat region of India.

*Dr. Inam is the author of the book, *Planning for the Unplanned: Recovering from Crises in Megacities*, a comparative analysis of successful city rebuilding in Los Angeles, Mexico City and New York. His paper, *Meaningful Urban Design: Teleological/ Catalytic/ Relevant*, received a national award from the SOM Foundation and was published in the *Journal of Urban Design*. His scholarly work has also been published in the journals, *Cities: The International Journal of Urban Policy and Planning*, and *Planning Practice and Research*, and received awards from the California Planning Foundation and the U.S. Department of Housing and Urban Development. He previously taught at MIT, where he received the Excellence in Teaching Award, UCLA, and the University of Michigan, where he received the Outstanding Faculty Award three times. He currently serves on the editorial board of *ArchitectureBoston*, the leading professional architecture and urban design magazine in New England.*

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The project is located on the San Diego trolley's Blue Line in the Mission Valley area. Both initiatives were the first of their kind, and both now have a nearly 20-year history from conception to implementation that can be evaluated and learnt from.

The research examines the San Diego case study via two sets of questions about the impact of these initiatives. The first set focuses on how the TOD Guidelines as public policy were translated into the concrete reality of a built urban design project:

- In what ways did San Diego's TOD design guidelines have a positive impact on the design of Rio Vista West, and in what ways did fall short? How did the guidelines facilitate the design of key TOD components, such as compactness and walkability, a mix of uses, promoting a variety of modes of transportation, and a higher density than the surrounding areas?

The second set of questions focuses on ways in which the Rio Vista West project does or does not embody the ideals of TOD design more generally:

- Now that Rio Vista West is fully built and occupied, can it be considered a successful example of a TOD? In what ways is it a prototype for future TODs in San Diego and similar contexts—for example, in terms of levels of car ownership and transit ridership, creation of a pedestrian friendly neighborhood, and work and shopping destinations that are easy to access? In what ways could it have been better designed and built?

The purpose of this research project is not to portray either San Diego's TOD design guidelines or Rio Vista West as infallible practices; rather, the purpose is to conduct a critical analysis of the strengths and weaknesses of the impact of each initiative, and to draw lessons for innovative public policies and urban design practices.

In recent years, there has been an increase in well-meaning policy makers, city planners, and urban designers pursuing such laudable goals as historic preservation, green design, vibrant streets, and convenient access to transit. However, it is not always clear how effective these initiatives have been in achieving their goals and having a larger impact on the city. The research examines two innovative initiatives in order to assess their impact in terms of TOD design and the workability of a TOD project. The study highlights what aspects of TOD design guidelines were most effective and why, the strengths and weaknesses of Rio Vista West, and suggests approaches that urban designers and planners can adopt in formulating public policies and designing projects.

Analytical Framework

TODs are becoming an increasingly common form of urban growth in the United States, for a number of reasons (Inam 2011: 636). First, TODs are visible and cogent forms of smart growth, especially the concept of concentrating development around transit stations. Second, demographic and lifestyle trends favor TODs as part of a larger smart growth strategy because they tend to appeal to young single professionals, childless couples, and retirees, all of whom value convenient access to urban amenities in walkable areas. A nation-wide study showed that there is a significant demand for such types of development that are currently not met by the market (Levine and Inam 2004). Third, TODs are often seen as market-based mechanisms in the sense that if the true social costs of automobile-oriented development were fully accounted for (e.g. energy consumption, air pollution, operating costs), the market would privilege such alternatives as mixed-use developments around major transit nodes rather than conventional, low-density developments that favor the separation of land uses, popularly known as "sprawl."

However, while there are compelling reasons for pursuing the design and development of TODs, two major challenges remain within the American context: First, given the dominance of the patterns of development after World War II that constitute "sprawl" and the automobile-oriented thinking that goes along with it, how do cities overcome such obstacles and actually implement TODs? Second, how do urban designers, planners, and cities evaluate the performance of TODs once they are built and occupied? The first question will be addressed later in this report through the case study analysis of the San Diego TOD Guidelines and the Rio Vista West Project. The second question is addressed in the next section. The most direct measurable benefit of TODs is increased ridership and the associated revenue gains (Cervero et al. 2004). Research shows that residents living near stations are five to six times more likely to commute via transit than are other residents in a region. Other primary benefits include the revitalization of declining neighborhoods, financial gains for joint development opportunities, increases in the supply of affordable housing, and profits to those who own land and businesses near transit stops. Among TODs' secondary benefits are congestion relief, land conservation, reduced outlays for roads, and improved safety for pedestrians and cyclists. Robert Cervero and his co-authors, in a seminal report for the

Transportation Research Board, summarized these measurable benefits, as shown in Table 1 below.

Table 1: Types of Benefits of Transit-Oriented Development Projects

Class of Benefit	Primary Recipient of Benefit	
	Public Sector	Private Sector
Primary	Increased ridership and fare revenues	Increased land values, rents, and real estate performance
	Provision of joint development opportunities	Increase of affordable housing opportunities
	Revitalization of neighborhoods	
	Economic development	
Secondary	Decreased traffic congestion and related costs, such as less pollution and lower fuel consumption	Increased retail sales
	Increased property and sales tax revenues	Increased access to labor pools
	Reduction of sprawl-type growth and conservations of open spaces	Reduced parking costs
	Reduced road and other infrastructure expenditures	Increased physical activity
	Reduced crime	
	Increased social capital and public involvement	

Source: Derived from Cervero et al. 2004, p. 120.

Assessing Design Performance

Hank Dittmar and Shelley Poticha, in their book *The New Transit Town* (2004), develop a more focused and useful definition of TODs, based on how they perform and five goals they seek to achieve: location efficiency, rich mix of choices, value capture, place making, and resolving the tension between node and place. Since this study is focused on the impact of the San Diego TOD Design Guidelines on Rio Vista West as well as the design consequences of Rio Vista West, three of these goals are most relevant to this analysis (Dittmar and Poticha 2004: 22-33):

- Rich Mix of Choices: A well-designed neighborhood offers many activities within walking distance for those who do not drive (e.g. the very young, the elderly), people who cannot afford cars, and people who choose not to rely on cars to get around.
- Place Making: Trips to the store, to visit neighbors, to the park, or to sit in a coffee shop and watch the world go by should be both feasible by foot and a delight to those who choose to walk. Some elements of place making include distinctive urban design that caters to the needs of people, new development that enriches existing qualities, making connections between different modes of transportation, working with existing topogra-

phies and landscapes, a mix of land uses and urban forms, designing for demographic and lifestyle changes, and ongoing management and maintenance of places.

- Resolving the Tension Between Node Versus Place: A TOD is a stop or node in regional transportation network as well as a station or place in a neighborhood. It is an interchange point serving a specific function in a regional network, which in turn is part of a metropolitan economy composed of employment centers and residential areas. At the same time, as a generator of travel, a transit stop attracts activity and is a desirable place in which to live, open a shop, or locate a workplace.

Our focus here is on urban design, both in terms of the principles and reasoning behind its layout and three-dimensional form, as well as the actual on-the-ground experience of the place. Thus, the design goals of TODs mentioned above (i.e. rich mix of choices, place making, and resolving the tension between node versus place) can further specified in design terms. In research that I conducted with my former colleague, Jonathan Levine and others (Levine et al. 2002: 17-22), we identified four principal characteristics of the design of residential and mix-used urban areas: density, land use, layout, and amenities. The following sections draw extensively from that research.

Density can be measured in objective and subjective terms. Objective density in residential neighborhoods refers to gross residential density as measured by people per acre and housing units per acre, and provides an overall sense of density in terms of proximity to neighbors, but also to work, school, retail, and other services. Subjective density is just as significant refers to residents' experience of density; measured, for example as percentage of neighborhood area as open space, percentage of neighborhood area as green space such as parks and gardens, a sense of scale such as absolute dimensions of open spaces, and a sense of proportion via height/width proportions of enclosures such as buildings and streets. The quality of density may be measured by the amount of vegetation and cover; the grain or density of street network; land subdivision: pattern of lots; lot coverage: percentage of lots covered by built objects; size of land parcels: smallest, median, largest acres or square foot areas; and street-widths as measured by right-of-way dimension and number of lanes.

The types of land uses most significant for neighborhoods are residential and those closely related to it, such as public buildings, institutional (e.g., school or

civic), and retail businesses. The number and variety of land uses in and near a particular neighborhood are also important. The most relevant uses to residential areas are employment (e.g., offices and commercial), retail (e.g., grocery and convenience stores, pharmacies, laundries, barbers, restaurants, shopping malls, banks), recreation (e.g., parks and recreation centers such as gymnasiums), education (e.g., day care centers, schools, universities), and services (e.g., libraries, health clinics). A variety of land uses can also reflect the diversity of a community; for example, heterogeneous lifestyles as reflected in housing types (e.g., income levels, marital status reflected in housing size and tenure such as rental versus ownership); and heterogeneous life cycle stages as reflected in housing types (e.g., singles, families with children, empty-nesters as reflected in small apartments, single-family detached homes, or assisted living complexes).

The layout of a neighborhood includes (a) spread (e.g., distance between destinations, distance between buildings); (b) grain (e.g., average lot sizes and average house sizes including smallest, median, and largest); (c) origin/ destination travel patterns (e.g., diffused or concentrated; concentration/ dispersal of employment); (d) grid pattern of streets (e.g., easier pedestrian and car access, but also higher traffic and thus less attractive for families with children); (e) spatial quality (e.g., looseness such as free-form and objects floating in space versus tightness such as defining streets, providing definition to open spaces, establishing edges); and (f) road system orientation (e.g., feeding onto limited arteries and freeways, or shuttling vehicles within the area, or a combination thereof). Other aspects of layout include (g) geometric pattern (e.g., linear, radial, grid, cluster); (h) legibility in terms of orientation (e.g., principal entries and exits, relationship to surrounding areas, location within neighborhood); (i) identity (e.g., distinct character of neighborhood, social and historical associations with physical place); (j) grain (e.g., intersections per square mile, blocks per square mile or average block size, building coverage—figure-ground, and number of lots of land or average lot size).

Amenities—such as prominence of natural features, type of landscaping, and style of architecture—are crucial to the qualitative, and often hard to quantify, aspects of neighborhoods. Landscaped features may be determined by examining number of open spaces per square mile; open space coverage as percentage of total neighborhood area; and amount of as well as types of vegetation. The quality of architecture impacts the overall feel of a neighborhood by the degree of prestige associated with

architectural style, richness of materials and details (i.e. durability and variety), and designated historic district. However, amenities can also influence accessibility by supporting or detracting from choices of modes of travel (e.g., walking, bicycling, automobile, bus, train, van, etc.). Transit-oriented amenities can be measured by the number of bus routes, number of bus stops, number of subway/light rail routes, number of subway/ light rail stations; and the quality of transit stops—for example, simply a sign attached to a pole planted in the ground as a bus stop, or a bus shelter with a bench, lighting, garbage can, newspaper kiosk, public telephone and paved (rather than dirt or gravel) ground. Automobile-oriented amenities include: (a) parking: percentage of parking in terms of open space and in terms of total neighborhood area, and quality of parking in terms of preponderance of large empty parking lots or small landscaped ones; (b) automobile surface areas: percentage of total neighborhood area and total open space area as roads and parking; (c) proximity: to major roads and regional arteries; (d) traffic flow: presence of high volume roads—cars per day, average speed or speed limit; and (e) presence and/or dominance of roads: average street widths/right of way.

The key factor tying these four characteristics—density, land use, layout, and amenities—in the design of a TOD is walkability. Walkability is a key measure of the success of a TOD, in two ways: first, number and variety of destinations within convenient walking distance (e.g. transit, retail, services, public spaces), and second, the quality of the walking experience (e.g. width of sidewalks, degree of connectivity between paths, perceptual quality of environment). The *TOD Design Guidelines* acknowledge this by stating that a “walkable environment is perhaps the key aspect of TODs” (Calthorpe and Associates 1992: 2). In terms of destinations, “placing retail, parks, day care, civic services, and the transit stop at the center of a TOD reinforces the opportunity to walk or bike for many errands, as well as combines trip to transit with other stops” (*Ibid*). In terms of the quality of the walking experience, “streets lined by trees and building entries that connect transit stops with local destinations also help to make the TOD environment pedestrian-friendly” (*Ibid*). The pedestrian is central, because not only do all modes of transportation require some form of walking, but it is also the most common, healthiest, and cheapest form of transportation, applies to the vast majority of citizens because there is no monetary cost, requires no special skills or training, and can be done without any equipment. Thus, a key measure of the impact of TOD design guidelines and the design performance of a TOD project is the on-the-ground experience of the pedestrian, as we shall see in the analysis of Rio Vista West.

TOD Design Guidelines and Rio Vista West Project

The City of San Diego has been a pioneer when it comes to contemporary light rail systems, city-wide TOD design guidelines, and new TODs built in suburban and urbanizing contexts.

TOD Design Guidelines

The first city in the United States to have citywide TOD design guidelines was the capital of California, Sacramento, which were designed by Peter Calthorpe in 1990 (Calthorpe Associates 1990, Caltrans 2002a). In 1992, San Diego became the second city in the country to adopt citywide TOD design guidelines, also designed by Calthorpe and Associates (Calthorpe Associates 1992). As the second largest city in the state of California, San Diego was the first city of its size and spread in the United States to undertake such an initiative. However, the TOD Design Guidelines represented ideas that had been around in San Diego planning circles and were repackaged and presented to the community (Bragado 2010a, Anderson 2010). Still, the TOD Design Guidelines were at the cutting edge of thinking, both for its era (i.e. early 1990s) and for its region (i.e. automobile-oriented southern California).

The City of San Diego has been an urban design pioneer in other ways. When the San Diego trolley opened in 1981, it was the first light rail system built in the country in over two decades. San Diego helped establish a renaissance of light rail in the United States, which now present in over 30 different regions. In 2006, 25 years after it started, the light rail carried more than 33 million passengers along its 54 miles of rail (Ristine 2006). The signature red cars have served a number of public events, including two American football Super Bowls, a baseball World Series, a Republican national convention, numerous Comic-Con conventions, and several rock concerts.

Rio Vista West was identified as a TOD as early as 1982, as part of the *First San Diego River Improvement Project Specific Plan*, which was several years prior to the adoption of the city-wide TOD guidelines. TODs are described in this long and revealing passage in the *Specific Plan* (1982: 7-8):

The City of San Diego has developed a Land Guidance System that established policies and standards to direct development in a manner that reduces automobile dependency through provision of alternative modes of transportation. This transit-

Figure 1: Map of San Diego trolley (i.e. light rail) system, with the Rio Vista station on the Green Line towards the top of the map.



Source: Metropolitan Transit System, San Diego.

oriented development scheme is regulated through transportation and land development policies summarized in the Transit-Oriented Development (TOD) Guidelines [that were finally adopted 10 years after the Specific Plan, in 1992] and the Progress Guide and General Plan. The TOD Guidelines encourage transportation and land development patterns that reduce reliance on the automobile by encouraging transit use, reducing vehicle trip-lengths and creating environments that are conducive to walking and bicycling. Mission Valley [where the San Diego River Specific Plan and Rio Vista West are located] has been identified as an area in the City where TOD's [sic] could logically develop due to a good bus transit and planning light rail transit opportunities as well as accessibility to a well-defined circulation network. Therefore, in addition to residential, commercial office, commercial-retail, and visitor-oriented commercial uses, mixed-used development in the support of the City of San Diego's TOD Guidance [sic] are encouraged.

This passage reveals are three significant insights: the far-sighted quality of the thinking that occurred in San Diego well before the New Urbanism movement gathered momentum in the 1990s or the Smart Growth movement achieved critical mass in the 2000s; the region-wide scope of policies to reduce dependence on the automobile and concentrate development at transit stops, and the original idea behind spurring a TOD in the suburban context of Mission Valley. Furthermore in San Diego, local and regional agencies have cooperated in order to make these intentions into reality. For example, the San Diego Association of Governments (SANDAG) approved a Regional Growth Management Strategy that called for increased development in transit focus areas, and the City of San Diego has had a land-use planner working full-time on TODs within the staff of the Metropolitan Transit System, formerly known as the Metropolitan Transit Board (Arrington 2003: 197-198).

Rio Vista West Project

Rio Vista West was the first project to be designed and built under the new TOD Guidelines. The project received the Award of Merit at the Pacific Coast Builder's Conference in 1994 for the Best Community Plan of 100 Acres or Less (CalMat Properties 1994), even before construction began. From the onset, the project was described as an urban village (CalMat Properties 1994):

The project is designed to integrate its four primary land uses into a new neighborhood: A diverse mix of housing; a variety of retail uses; a mixed-used core reminiscent of a typical "Main Street USA" with office, retail and residential uses adjacent to the trolley station; and an interconnected sequence of public greens, plazas, and paths. Utilizing the planning concepts of the New Urbanism style, basic qualities of older neighborhoods are incorporated with narrow tree-lined streets organized in a grid pattern to provide enhanced opportunities for walking or biking to transit, shopping, entertainment or work destinations.

This general vision is described in greater detail in the *Rio Vista West Master Plan*, technically known as *Rio Vista West: Amendment to the First San Diego River Improvement Project Specific Plan: Design Guidelines and Development Standards*, with the final credit of authorship going to four private consulting firms: Teshima Design Group, David Evans & Associates, Calthorpe Associates, and T&B Planning Consultants. The specific intentions of the Rio Vista West project were (Teshima Design Group et al. 1999: III-1):

- cluster a mix of intensive land uses near the Trolley Station to encourage transit use and create an activity center for the community,
- establish a viable and vital critical mass of retail serving the region and the neighborhood,
- build a mixture of housing densities for a range of household types,
- provide a series of open space elements that provide a visible focus and common gathering point for each portion of the site,
- create an interconnected network of public and private streets and pedestrian paths that provide direct connections between typical destinations inside and outside of the project while minimizing reliance on surrounding arterials,
- create streets, paths and open space that are comfortable for pedestrians, establish an attractive neighborhood with an aesthetic that is consistent with San Diego's architectural traditions, and
- protect and provide convenient public access to the San Diego River Corridor (for example, see Figure 2).

Figure 2: View of the San Diego River with the apartments of Rio Vista West on the left and the Blue Line light rail on the right.



Source: Aseem Inam

An aspect of Rio Vista West that is central to understanding its performance as a TOD is that the property owner CalMat Properties Co. was also the master developer. CalMat

financed the master planning process, built the basic infrastructure, and then sold the various retail, residential, and mixed-use components to other developers, who then were responsible for the detailed design and construction of those pieces. CalMat Properties was a subsidiary of CalMat Co., a major producer of construction materials operating in California, Arizona, and New Mexico. In 1999, Vulcan Materials Company, based in Birmingham, Alabama, acquired CalMat. Vulcan produces aggregates, primarily crushed stone, sand and gravel, that are used in different forms of construction. As the master developer, CalMat was responsible for working with each sub-developer to develop their piece of the project (e.g. retail center, mixed-use core, residential). In terms of the specific urban design of the project, these intentions translated into five planning areas: Urban Residential/Mixed-Use Core, Retail Center, Urban Residential, Courtyard Residential, and Riverfront Residential (see Figure 3).

Figure 3: Aerial photograph of Rio Vista West TOD project in Mission Valley, San Diego.



Source: Google Earth.

The numbers and letters in the image refer to the following:

1. Planning Area 1: Urban Residential / Mixed Use Core: The Promenade
2. Planning Area 2: Retail Center: Rio Vista West Shopping Center
3. Planning Area 3: Urban Residential: Townhouses
4. Planning Area 4: Courtyard Residential: The Missions at Rio Vista
5. Planning Area 5: Garden Apartments: The Lido
 - A. Rio Vista Trolley (i.e. Light Rail) Station
 - B. San Diego River
 - C. Qualcomm Way
 - D. Rio San Diego Drive
 - E. Friars Road
 - F. Existing Office Park and Hotel Complex

The various pieces of the Rio Vista West TOD project, seen in the image above, are described in greater detail in the following sections:

Planning Area 1: Urban Residential / Mixed-Use Core: The Promenade

The densest portion of Rio Vista West is the Promenade, with 980 units, and a density of 70 units per acre. This is how the Promenade's amenities are described on its website (accessed March 17, 2011: <http://www.promenadeliving.com/homeset.html>): beautifully landscaped Esplanade with graceful fountain and seating areas; lively shopping arcade with unique boutiques, restaurants and services; Rio Vista Trolley station on-site; river walkways for casual strolls; adjacent to the San Diego River and trail system; courtyards in the center of each building with splashing fountains resort-style pool and spa with BBQ pits and entertainment decks; fully equipped fitness center with sauna, showers and lockers; two elegant clubrooms with full kitchens and billiards tables; one features a theater room; business center with fax & internet/computer services and separate conference room; assigned underground parking with elevator service for each building; card-controlled access for vehicles and pedestrians; award-winning architecture and planning; outstanding customer service and property management; and a wide array of resident services, including concierge, cleaning, mail & pack-

age delivery, insurance, referral programs, furnishing and corporate apartments (see Figure 4).

Figure 4: View of the Promenade mixed-used complex with shops below and apartments above.



Source: Aseem Inam.

Planning Area 2: Commercial: Rio Vista West Shopping Center

The Rio Vista West Shopping Center is described by the developer in the following way (accessed March 17, 2011: <http://www.sudprop.com/development/rvs/>): Rio Vista is San Diego's first "transit-oriented development" (TOD). It successfully links major retailers to a nearby trolley station and is part of the master-planned community of Rio Vista West.

Architectural features used by Irving J. Gill, San Diego's most prominent architect in the early 1900s, emphasize simple, distinct forms that reflect the traditions of the region. The building statistics are as follows: year built – 1995; major tenants: Sears, Sports Authority, Office Depot; number of shop spaces – 16; number of pads – 5; building area - 261,135 sq. ft., and land area - 21.4 Acres (see Figure 5).

Figure 5: View of the large surface parking lot of the Rio Vista Shopping Center, with the big-box Sears store in the background.



Source: Aseem Inam.

Planning Area 3: Urban Residential: Townhouses: 200 units

Planning Area 4: Courtyard Residential: The Missions at Rio Vista

The Missions at Rio Vista is a 464-unit multi-family residential development located on the North side of the San Diego River, within Mission Valley, between Friars Road and Station Village Lane, westerly of Gil Village Way, in the City of San Diego, California (accessed March 8, 2011: <http://www.sboinc.com/Rio-Vista-West-Apartments.aspx>). The project covers 15.74 acres and has a density of 29.5 dwelling units per acre. The project incorporates 29 buildings, two major recreation areas, and a system of internal driveways and parking areas to serve the 464 apartment units (see Figure 6).

Figure 6: Plan of Missions at Rio Vista apartment complex.



Source: <http://www.missionsatriovistaapartments.com>

Planning Area 5: Garden Apartments: The Lido

The Lido was built in 2005. It has 220 units ranging in size from 930 to 1,798 square feet (accessed September 9, 2009: <http://activerain.com/blogsvie/1231639/mission-valley-condossan-diego-ca-the-lido>). Floor plans include one bedroom/one bathroom, one bedroom/two bathrooms, two bedrooms/two bathrooms, and three bedrooms/three bathrooms. Amenities at The Lido include swimming pool, spa, water fountains, clubhouse, and a fitness center. The clubhouse has flat screen televisions, kitchen, pool table, indoor/outdoor fireplace, and a lounge area.

Impact of TOD Guidelines

The planners of the City of San Diego had already thought about how the *TOD Design Guidelines* would have citywide and long-term impacts at the time they were adopted in 1992. For example, at the very beginning of the *Guidelines* document, Michael Stepner, City Architect of San Diego at the time, writes that the "TOD perspective is being brought to the Street Design Manual update, the Zoning Code update, the Progress Guide and General Plan, community plan updates, demonstration projects, and the Regional Growth Management Strategy" (in Calthorpe and Associates 1992: frontispiece). Incorporating the *TOD Design Guidelines* into the larger and more system-wide planning efforts can be an extremely effective strategy to ensure their impact across the city, rather than only on a few isolated projects. This may also explain why only 4 pages out of a 90-page document are devoted explicitly to specific implementation strategies that normally would be essential to ensuring their effectiveness. These implementation strategies mentioned in the original document include long-range planning, environmental review and permit processing, zoning and city standards, and public services and infrastructure.

The *TOD Design Guidelines* were thus incorporated into three significant, city-wide documents: the 2000 Land Development Code, the 2002 General Plan and 2008 update, and the 2002 Street Design Manual (Bragado 2010a, Stepner 2010). TODs were seen as only one part of a larger set of principles, and the goal was to integrate the principles of the *Guidelines* into everyday city planning (Anderson 2010). The guidelines were also influential in subsequent planning frameworks, such as the "City of Villages" concept first introduced in 2000 for the new General Plan process. The concept called for increasing housing density around designated urban centers and neighborhood centers which would contain shops and

public facilities, similar to the concentration of development around transit stations. As seen in the analysis of the Rio

Vista West, however, the constraints to effective implementation and subsequent consequences lie elsewhere: city engineers who refuse to change rigid and outdated street standards, perceptions of what the so-called "market" will accept in terms of the design of retail, and a somewhat introverted, project-oriented approach to TODs.

In addition, to make these *Guidelines* a reality, one also has to pay attention to the process of development. At Rio Vista West, the City of San Diego planning department persuaded the master developer, CalMat Properties to pursue denser development (Schreibman 2000). What is unusual about this scenario is that in urbanizing areas such as Mission Valley, it is usually the developer who pursues higher density development and it often city planners or the planning commission—acting under the pressure of neighborhood resistance—who push the developer to reduce densities. The primary reason the City persuaded the developer to pursue higher densities was to concentrate development around the transit station.

Implementing a project the size and complexity of Rio Vista West has other challenges. Even though there was one master developer and one master plan, each piece—large scale retail, mixed use, and three different residential developments—had its own developer and a more detailed design than what was in the *TOD Design Guidelines* or the Rio Vista West Master Plan. For the planners, one of the most difficult aspects of the project to monitor were the different phases of each piece being submitted for approval and being built at different times (Wright and Frost 2000). Dealing with the different architects, developers, and builders for each piece made it especially challenging for the planners to ensure that the implementation was in keeping with the original urban design ideas.

In the next section of this report, I examine some of the specific intentions of the *TOD Design Guidelines*, and then examine their consequences in terms of how they were interpreted and implemented through the Rio Vista West Master Plan. These particular sections of the *Guidelines* were selected because they illustrate the four characteristics of residential and mixed-used developments mentioned earlier in this report (i.e. density, land use, layout, amenities), and are critical to the quality of the lived experience of the project: Guideline 1G: TOD Residential Areas; Guideline 1H: Public Uses, Guideline 1I: Mixed-Use,

Guideline 1K: General Design Criteria, Guideline 2A: Location and Proximity to Transit, Guideline 4C: Core Commercial Configuration, and Guideline 5E: Residential Building Facades. I organize these guidelines by scale of impact (from the largest—i.e. urban—to the smallest—i.e. architectural), and describe them further in the next section.

Location

Guideline 2A: Location and Proximity to Transit (Calthorpe and Associates 1992: 24): TODs in Redevelopable and Urbanizing areas must be located along existing or planned transit lines within urbanized or urbanizing portions of the city . . . [and] should not only develop underutilized parcels, but should also seek to incorporate existing surrounding uses into the form and function of the TOD.

Rio Vista West is located within a 15-20 minute light rail ride of major employment centers such as downtown San Diego and even closer to other major destinations such as Qualcomm Stadium and the campus of San Diego State University. There are number of bus services in the area as well. The location of the Rio West light rail stop is immediately adjacent to the Promenade mixed-used portion of the project, with more tenuous connections to the other portions (see Figure 7). Thus, the majority of the project is much less well served than the Promenade by the location of the transit stop, which is on the southern edge of the project.

Figure 7: View of the Rio Vista light rail stop and the iconic red cars of the San Diego Trolley.



Source: Aseem Inam.

Land Uses

Guideline 1I: Mixed-Use (Calthorpe and Associates 1992: 17): All TODs must have a mix of uses arranged horizontally within their boundaries . . . Horizontal mixed-use refers to the plan view arrangement of land uses within the TODs . . . Vertical mixed use buildings do contribute to a healthy pedestrian environment, but are much more difficult to implement due to common real estate practices that encourage single-use buildings.

The vast majority of the project consists of residential land uses. The two exceptions are the Urban Residential / Mixed Use Core and the Retail Center. The Mixed Use Core was designed for housing, retail shops and services, restaurants, and the Commons. Further, the project guidelines and standards suggest that "a day-care center, office space or health club may also be considered . . . [and] . . . push carts, patio eating areas and a Farmers' Market will further enliven this area" (Teshima Design Group et al. 1999: IV-15). However the last suggestion is tempered, revealing the underlying automobile-oriented bias in what is supposed to be a plan for a transit- and pedestrian-oriented development, by stating that such outdoor activities should not occur within required parking areas. An alternative, more nuanced approach would have been to suggest that such outdoor activities may occur in parking areas during off-peak hours when portions of those areas are vacant or for special events that may occur only a few times a year.

The Retail Center is an example of horizontal mixed-used that is alluded to in the City's TOD guideline 1I, since it is within the project area and is within walking distance to the residential parts of Rio Vista West. However, as the more detailed analysis in later sections of this report reveal, there are many obstacles to its walkability, including an excessively wide street that separates the two, Rio San Diego Drive, and a lack of crosswalk and a stop sign to slow down the rapidly moving traffic on Gill Village Way.

Guideline 1H: Public Uses (Calthorpe and Associates 1992: 16): Public uses are required in each TOD to serve residents and workers in the TODs and neighboring areas. Parks, plazas, and public services may be used in any combination to fulfill this requirement . . . Appropriate public facilities include day-care, libraries, community buildings, police and fire stations, post offices, and governmental services.

The only truly public area specified in the Rio Vista West project guidelines and standards is for a commons within the urban residential / mixed-use core and encompassing 1.37 acres (Teshima Design Group et al. 1999: III-17). This is rather meager, since the built area of the project is 54.39 net acres. While quite well-designed, this commons constitutes a measly 2% of the total built area of Rio Vista West (see Figure 8). The project also counts the San Diego River Corridor as a public area, and calls for a 6-foot sidewalk and frequent trail connections. The idea was to “promote active uses along the riverfront and promote high visibility of the river corridor” (Teshima Design Group et al. 1999: III-17). While the River Corridor is indeed adjacent to the residential areas, the quality of view and physical access are less than desirable, as will be seen in later sections of this report. Similarly, the descriptions of the Trolley Plaza in the project guidelines and standards match the reality on the ground only in vague terms.

Figure 8: The commons, with a fountain, trees, and lawn, at the Promenade.



Source: Aseem Inam.

The challenge of promoting public uses in a public document such as the TOD Design Guidelines is: How does one actually make this happen when the private sector owns the property, invests in it with the notion of “highest and best use” from a profit perspective, and actually builds it? As seen at Rio Vista West, the well-meaning intentions and design guidelines are not enough. What is actually needed is a new system or modified system of incentives and standards that will actually lead to not only truly public open spaces, but also libraries, community centers, and other facilities that are not profit-driven economic commodities in a strict sense.

Configuration of Areas

Guideline 4C: Core Commercial Configuration (Calthorpe and Associates 1992: 39): The configuration of shops in the core area must seek a balance between pedestrian and auto comfort, visibility, and accessibility . . . Core commercial areas should be configured to allow standard parking quantities, access and visibility for the car, as well as a convenient path for local pedestrians . . . Simultaneously, the edge of the core fronting the arterial may house larger parking areas and anchor stores in locations visible from arterials.

The retail at Rio Vista West is concentrated in the Retail Center, which is described in the *Plan* as containing major anchor stores and ancillary shops and pads adjacent to the major arterials on the northern and eastern edges of the project, Friars Road and Qualcomm Way. The Center was also designed to be connected to the rest of the neighborhood through local streets and pedestrian paths. The scale and orientation of the Center is established through the dominance of “big-box retail” (such as a supermarket, major discount department center, and other anchor stores including a drug store). Furthermore, the *Plan* permits drive-through restaurants and automobile rental agencies, both of which would create several curb cuts, driveways, and parking areas in what is meant to be a highly pedestrian friendly neighborhood.

Furthermore, the *Guidelines* privilege the automobile by emphasizing standard (rather than reduced) parking quantities, access and visibility for the car, with a secondary and almost begrudging allowance for “a convenient path” for local pedestrians (see Figure 9). These lopsided conflicts that tend to favor vehicles over human beings are clearly seen in the design and implementation of the project. Some of this may be considered as a given, due to established public sector standards for traffic engineering and transportation planning, as well as private sector perceptions that an abundance of highly visible parking is essential for the financial success of most retail. Even when disproven, these standards and perceptions are extremely difficult to change due to rigid thinking and institutional inertia.

Figure 9: The tree-lined pedestrian path through the middle of the large parking lot of the retail center, which— while commendable—ends at a blank wall of the big box retail space.



Source: Aseem Inam.

Guideline 1G: TOD Residential Areas (Calthorpe and Associates 1992: 15): TOD residential areas include housing that is within a convenient walking distance (average 2,000 feet) from core commercial areas and transit stops. Average minimum densities should vary between 18 and 25 dwelling units/net residential acre, depending on proximity to transit, relationship to surrounding existing neighborhoods, and location within the urban area. TOD residential density requirements should be met with a mix of small lot single-family, townhomes and apartments . . . Net densities are roughly 20% higher than gross densities, once streets and other infrastructure improvements are accounted for.

The *Rio Vista West Plan* specifies a residential density of (Teshima Design Group et al. 1999: III-4), as follows:

- Planning area 1: Urban residential/mixed-used core: 30-70 dwelling units / net acre
- Planning area 2: Commercial not applicable
- Planning area 3: Urban residential: 30-70 dwelling units / net acre
- Planning area 4: Courtyard residential 26-34 dwelling units / net acre

- Planning area 5: Riverfront residential 18-33 dwelling units / net acre

Thus, the minimum densities are on the high side at Rio Vista West as compared to those specified in the *TOD Design Guidelines* (see Figure 10). However, Rio Vista West can accommodate even higher densities, due to its proximity to two types of transit—bus and light rail, walking distance to possible employment opportunities in the office park west of Qualcomm Way, and provided the design accommodated the qualitative elements of a better distribution of open spaces and far more extensive use of landscape for screening of privacy concerns and mitigation of noise. Moreover, TODs—due to their higher densities and access to transit—are excellent opportunities for new affordable housing in urbanizing areas such as Mission Valley. However, this is not addressed in the *Rio Vista West Master Plan*.

Figure 10: Pedestrian paths and lush landscaping help improve the quality of the experience of the high-density environments such as the Missions at Rio Vista apartment complex.



Source: Aseem Inam.

Design Qualities

Guideline 1K: General Design Criteria (Calthorpe and Associates 1992: 19): TODs should create pedestrian-oriented environments. In general, buildings should address the street and sidewalk with entries, features and activities, to enliven streets and to create safe, pleasant walking environments . . . With the possible exception of anchor retail stores, primary building entrances should be physically and visually oriented toward streets, parks and plazas, and not

to the interior of blocks or to parking lots or garages . . . Core commercial areas should be intensive enough to provide a “main street” shopping spine . . . Buildings must be of a sufficient intensity and density to create safe and active streets enhanced by a sense of enclosure and visual interest, and to support transit.

As studies of urban design projects have shown, a development that is compact and/or dense does not necessarily create a walkable and pedestrian-friendly environment. The actual quality of the design matters. Thus, City guideline 1K provides directions about the relationships between buildings and the open spaces they shape. These are further elaborated upon the *Rio Vista West Master Plan* with an entire section devoted to design guidelines and development standards and an architectural philosophy that draws from the work of the Southern California architect, Irving Gill (1870–1936), who is known for transforming Spanish Colonial traditions into a modernist language. His architecture is based on simple forms accentuated by contrasts between shade and light. The *Plan* highlights the ways in which Gill established a direct relationship between nature and the built environment through trellises, pergolas, courtyard, patios, porches, arched windows and arcades (Teshima Design Group et al. IV-2). These intentions are described in great detail in the *Plan*, through illustrated discussions of massing, building orientation, height, roofs, courtyards and plazas, and walls and fences.

Guideline 5E: Residential Building Facades (Calthorpe and Associates 1992: 48): Building facades should be varied and articulated to provide visual interest to pedestrians. Frequent building entries and windows should face the street.

Buildings and other structures shape public spaces such as sidewalks, plazas, and courtyards by acting as walls and edges. Buildings also effect the quality of the pedestrian experience, as is evident in the experience of passing by a large blank concrete wall versus a variegated façade that contains arcades, porches, windows and doors. The thoughtful design of building facades is essential for creating visual and physical connections between the interiors of these structures, the outside surfaces, and the open and public spaces of the city. The *Rio Vista West Master Plan* thus builds upon the *San Diego TOD Design Guidelines* by providing detailed guidance about arcades and porches, trellises, windows and entries, and awnings (see Figure 11). For example, the *Plan* recommends that the “pattern of openings should correspond to the overall rhythm of the building and

be in line with arcade and trellis openings . . . Entry doors, and building entries in the case of higher density residential products, that are visible from streets and required pedestrian paths should appear to be substantial and impart a rhythm to the streetscape” (Teshima Design Group et al. 1999: IV-7).

Figure 11: A successful example of variegated building façade design helping to create a truly pedestrian-friendly environment is the townhouses at Rio Vista West.



Source: Aseem Inam.

The major reason why the retail component is much more conventional in its regional scale and automobile orientation is that it was designed according to the standards of retailers such as Kmart (Schreibman 2000, Sudberry 2010). This was perceived to be necessary at the time to finance the retail component of the project. What such a perspective fails to recognize is that while big box retailers do have their urban design standards in terms of necessary square footage to make a store financially feasible, easy automobile access and an abundance of parking, and designs that literally no more than glorified boxes, these standards are constantly under pressure to evolve as land becomes scarce, as cities become denser, and as alternative modes of transportation are developed. Moreover, a global perspective reveals that in other parts of the world there is a long and successful tradition of large scale retailers who adapt to the denser, mixed-used, and walkable qualities of most cities.

Performance of Rio Vista West as a TOD

Rio Vista West was meant to be a showcase for the TOD Guidelines (Bragado 2010a). Indeed, Rio Vista West is considered by many to be a prototype and receives many visitors from other cities. In fact, sub-

sequent TODs in San Diego have adopted aspects of the design of Rio Vista West, such as the park, the clock tower at the station, and the pedestrian promenade across the parking lot of the large-scale retail.

Several current and former staff at the highest levels of the City of San Diego's planning department suggest that Rio Vista West is an exemplary TOD in number of ways (Bragado 2010b, Anderson 2010, Stepner 2010). A key consideration is that even though it was the first new TOD in San Diego, it did not require any public subsidy. Another consideration is the mix of uses, such as the regional retail that generates transit use (Anderson 2010), and the emphasis on horizontal rather than vertical mixing of land uses. For the city planners, being able to implement a mixed-used development as one master plan is a significant measure of its success (Wright and Frost 2000). Another aspect of its success was the role played by the master developer, whose business has been traditionally in the supply of sand and gravel, and it was commendable for the company to be willing to be so non-conventional in this project. For the planners, the most attractive piece of the Rio Vista West as the mixed-used core around the trolley station, the Promenade (Wright and Frost 2000).

Given the low-density, automobile-oriented, land-use-segregated, and vastly-spread context of southern California, the intentions of the *TOD Design Guidelines* and the *Rio Vista West Plan* are commendable. However, the on-the-ground reality and its consequences are another matter. This analysis has focused on the relationship between three specific elements: the intentions of the *TOD Design Guidelines*, their interpretation and implementation through the *Rio Vista West Plan*, and most importantly, the on-the-ground consequences of the design of Rio Vista West project. This perspective reveals several missed opportunities and weak qualities (Bragado 2010b, Anderson 2010, Stepner 2010). More affordable housing could have been included, there could have been more transparency on Rio San Diego Drive, the conflict between the river and its wetlands as an environmental amenity versus an urban amenity could have been better resolved, bicycle trails could have been added, and the views and public access into the public in the Promenade have been much better. The street through the Promenade was deliberately designed to have the look and feel of a private driveway (e.g. no lane markings, multiple speed bumps—see Figure 12) rather than a public street because the City's engineering department wanted to minimize the liabilities associated with public streets.

Figure 12: One of the streets in the Promenade designed as a private driveway—with multiple speed bumps and no lane markings—rather than as a pedestrian- and bike-friendly public street.



Source: Aseem Inam.

There were other missed opportunities. For example, it quite common in the American context for existing residents of suburban areas such as Mission Valley to resist new development that is innovative. Residents perceive higher density development as a source of much higher traffic volumes and think that affordable housing contributes to the lowering of existing property values, though studies have shown that to not be the case. In Mission Valley, there was no such NIMBYism because the site was surrounded largely office buildings, shopping malls, the San Diego River, and major roads. The urban designers and developers could have taken advantage of this situation to promote a pattern of development that was far more innovative than it is currently: higher residential densities including affordable housing, a richer mix of vertical and horizontal land uses, and a truly pedestrian-friendly neighborhood with extensive pedestrian and bicycle paths, much narrower streets, wider sidewalks, and street frontages that engage much more with the public realm through active uses on the ground floor and façade designs that are transparent. Instead, the resistance was internal to the project: developers who accepted at face value the rigid and outdated design standards of the big box retailers, traffic engineers who insisted on overly-wide streets even though it is meant to be a pedestrian- and transit-oriented street, and the developers of the individual residential pieces who did not make enough of an effort to visually and physically connect their development with the one across the street.

In terms of connectivity within the project and to its surroundings, there are extremely wide streets within the TOD. The lack of connectivity is further heightened by each pod of development being largely self-referential (e.g. lack of visual continuity, blank facades on outer edges of residential development at the Promenade, lack of crosswalks). Access to employment centers from the trolley stop to the office buildings is quite limited, with two choices: either walk down to the 5-lane Rio San Diego Drive, cross 8 lanes of traffic at Qualcomm Way (see Figure 13), and proceed further west towards the office buildings and hotels, or walk along a long, narrow, and fenced-in passage from the station, on the bridge over Qualcomm Way and on to the buildings from the backside of buildings abutting the train tracks, and to the buildings on the north of Rio San Diego Drive through parking lots and across 5 lanes of relatively high-speed traffic (i.e. speed limit 40 miles per hour). In addition to the trolley line, there is a bonus amenity at Rio Vista West: the San Diego River and the lush wetlands that line its edges. Here too, there are only feeble attempts to connect, a walk behind the Lido condominium complex that has access through a gate (see Figure 14). For example, the entire southern edge of Rio Vista West could have been oriented much more towards the river and the wetlands, which could have served as a virtual front yard for the project. Instead, much of the residential is organized around internal courtyards and streets.

Figure 13: View from Rio Vista West towards the hotel and office park on the other side of Qualcomm Way. Notice the width of the street and the subsequent length of the crosswalk on the left.



Source: Aseem Inam.

Figure 14: The visual and physical connection between the Lido and the San Diego River trail is blocked by a fence and gate.



Source: Aseem Inam.

These consequences are best summarized in an essay by Diana DeRubertis, who is a resident of Rio Vista West (DeRubertis 2006): Rio Vista West is enclosed by huge, multi-lane thoroughfares, which feed rapidly-moving traffic to Mission Valley's freeways and malls. Compounding the problem is Rio Vista's main retail component—a big box shopping center set upon acres of asphalt surface parking . . . In addition to the hostile environment, other key factors actually promote car use and discourage walking. There is no accessible grocery store—not within Rio Vista's borders nor in the many nearby shopping centers.

One of the challenges of doing a TOD project is the phasing in terms of financial and market feasibility (e.g. for the retail). According to the master developer, CalMat Properties, the project has been a success (Schreibman 2000): "[W]e are very proud of it. It met the market. It was absorbed quickly from our perspective. We are quite happy with it." However, this view assumes that there is a fixed notion of market demand and that when a project meets that demand, it has achieved its goals. A more dynamic, and indeed visionary, view would hold that truly innovative urban design projects—such as TODs in the United States—need to generate market demand for new neighborhood types that residents may not be familiar. In this view, such projects reflect changing demographics, lifestyles, and commuting patterns, and not simply what the market may already be familiar with.

Thus, urban design projects, including TODs such as Rio Vista West, can also be viewed from a different perspective: not as completed material objects, but as works in progress that are part of a constantly evolving city. For example, both the planners (Wright and Frost 2000) and the developer of the big box retail (Sudberry 2010) are open to the possibility—and even the desirability—of increased density on the current site of the retail. The infill would include additional residential and the conversion of surface parking lots into garages. The planners especially have such a long-term view of cities and spoke of the need for choices in modes of transportation, an increasing mix of land uses, infill development, and high demand for housing in the San Diego metropolitan region. The challenge is to design an individual TOD project in such a manner from the onset and for developers to build in the flexibility that is necessary for future adaptation.

Conclusion

Intentions and Consequences

The principles and intentions of San Diego's TOD guidelines and Rio Vista West can be traced directly through the work of Peter Calthorpe. His book, *The Next American Metropolis: Ecology, Community, and the American Dream* (1993), was instrumental in crystallizing the idea of the contemporary TOD in the American context. The same ideas permeate the *TOD Design Guidelines* and to a lesser extent, the *Rio Vista West Plan*. In this context, it would be fair to state that the City of San Diego's intentions for promoting TODs are embodied by the ideas of Peter Calthorpe. This enabled the City of San Diego to state clearly what the definition and benefits of a TOD were (Stepner in Calthorpe Associates 1992: frontispiece):

A Transit Oriented Development (TOD) is a compact land use pattern with housing, public parks and plazas, jobs, and services located along key points on the transit system. The strategic application of the TOD principles will greatly help us in our efforts as a community to reduce automobile dependence, improve air quality, and create pedestrian-oriented, interactive neighborhoods.

One finding of this study is that planners working for the City of San Diego (Wright and Frost 2000, Bragado and Anderson 2010, Stepner 2010) not only had a pioneering vision embodied in the *TOD Design Guidelines*, but that they also pursued a number of different strategies to implement that vision. To give the Guidelines real teeth and have a city-wide im-

pact (rather than only on isolated projects), they incorporated the design principles into documents that carried greater political and legal weight, including the City of San Diego's *General Plan*, *Street Manual*, and *Land Development Code*. For Rio Vista West, they worked proactively and closely with the master developer and master planner to ensure consistency with the *Guidelines*. In this respect, the San Diego planners clearly understood the vital relationship between intentions and consequences in urban design.

A project-based approach for designing patterns of urban growth around transit has the potential to create vibrant, walkable neighborhoods that can serve as prototypes for many other TODs. However, the approach has its limitations, as Rio Vista West has shown. The challenges are the larger system of designing and building cities, and the prevailing attitudes that govern these systems. For example, as in Rio Vista West, American street standards and widths tend to be shaped by outdated engineering standards for vehicular rather than pedestrian flows and by the fire department requirements, such as the turning radius of a fire truck. The pedestrian orientation of the development, which is essential to a well-connected and lively development, is seriously lacking in details (e.g. lack of crosswalks and traffic stop signs where there should be one, blank facades along major sidewalks).

The urban design of a project can also demonstrate the ways in which we can make multiple modes of transportation work together: walking, bicycle, bus, train, and yes, even the automobile (e.g. in terms of convenient drop off points for the trolley, and limited yet easily accessible parking for the residential and the retail). In Rio Vista West, parking is tucked under the mixed use residential and retail closest to the trolley stop, which attenuates the otherwise overwhelming presence of parking. However, the parking is treated largely with pedestrian unfriendly blank facades, which are then mitigated by generous amounts of landscape (e.g. ground cover, shrubs, trees).

An example of the larger systems that need to be addressed via urban design included: modes of transportation, traffic and street engineering standards, perceived "market incentives" and democratically established rules and regulations, and the dominant bias towards automobiles that results in low expectations of what a TOD can actually be. Thus, for example, Rio Vista West works if our expectations are low regarding how the market works (e.g. The belief that we have to have auto-oriented retail, multiple pods and developers in order to make the financing work), versus the idea of actually generating demand, or

even creating a buzz for the more innovative aspects of the project while meeting existing market demand for the conventional aspects.

Another finding of in this research is the need to clearly prioritize the pedestrian. Regardless of our modal choice of transportation, every trip begins and ends on foot. Many policy documents such as the *TOD Design Guidelines* include pedestrian-friendly designs, such as tree-lined streets or clearly marked crosswalks. However, suburban-style developments with these design elements remain car-dependent communities because they are still designed for the car. If a TOD is to act as a true urban village, it must put walking first; streets must be welcoming to the pedestrian and the streets must be appealing and safe. If neighborhoods are built in a way that encourages people to walk, transit use is more likely to increase. The key to walkability also lies in the details at the building scale (e.g. transparent facades on the ground floor that contain pedestrian-oriented activities) and the infrastructure scale (e.g. painting crosswalks and putting up a stop sign for vehicular traffic in order to encourage pedestrian flows from the residential to the retail).

The larger lessons of this research apply to urban design projects all over the country. While urban designers must be extremely aware of market realities and sensitive to patterns of human behavior, where they fall short is to realize that the market and behavior can and does change due to deliberate efforts in policy choices as well as changing lifestyles. A historic understanding of cities demonstrates that cities are constantly evolving, often due to political and economic decisions made by human beings. For example, as Dittmar and Ohland (2004: 9) point out, a life that revolves around the automobile or a suburban lifestyle—what many Americans take for granted—was not always the lifestyle of choice. These post World War II choices were nurtured to a large degree by public policy, such as the mortgage interest tax reduction or the subsidies for new roads at the expense of other forms of transportation.

As a study published in 2006 revealed, Americans move to TODs do so for a variety of reasons (Lund 2006: 365). For example, only about a third of the respondents in that survey reported “access to transit” as one of the top three reasons for their choices, and lower housing costs as well as the quality of the neighborhood were equally important reasons behind their moves. Similarly, studies cited by Arrington and Cervero (2009: 27), for example of the Orenco Station TOD in Portland, Oregon, suggest that the overall design of the development is one of the most important reasons that people like living in a particu-

lar project. What this suggests is that the quality of the design and implementation of a TOD is just as important as its access and proximity to transit, and that a TOD should stand alone as desirable neighborhood, even if no transit were to be present (Arrington 2003: 196).

The challenge for urban designers is what fundamental improvements will they pursue in the form of American cities, what types of truly innovative strategies will they develop, and what specific types of political and economic strategies will they implement to make these changes a reality. The well-meaning intentions for greater choice in neighborhood types and transportation modes, increasing neighborhood walkability and housing affordability, and a more humane city are not enough. Ultimately, it is the on-the-ground consequences of these intentions that matter in the daily lives of people.

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Appendix: Research Methods

The relationship between intention (e.g. conceptual design, policy goals) and consequence (e.g. concrete reality, impact of development) was central to this research, and is more broadly significant for understanding how urban designers and planners can be more effective in shaping cities over the long term. The San Diego case study allows one to study two levels of professional practice simultaneously: city-wide public policies such as the TOD guidelines, and context-specific urban design projects that are shaped by those broader policies. The case study method used for this research helps understand TOD public policies and urban design within the complexities of a real context (i.e. city of San Diego), and will rely on multiple sources of evidence (e.g. interviews, policy documents, newspaper articles, photography). The research followed the steps of the case study method: determine and define the research question, select the cases and determine data gathering and analysis techniques, prepare to collect the data, collect data in the field, evaluate and analyze the data, and prepare the report. These steps are described in detail in the next section.

Phase 1: Preliminary Research: 2000 – 2002: Starting in 2000, a colleague and I conducted research on Rio Vista West as a part of a larger project entitled “Developer-Planner Interaction in Transportation and Land Use Sustainability,” with the final report available at the following website: <http://transweb.sjsu.edu/mtportal/research/publications/documents/01-21.pdf>. We conducted original research about the project, including interviews with the developer and the planners, analysis of the master plan, and newspaper accounts. We found that while the TOD design guidelines were a strong incentive to create a transit village at that location, the project would not have succeeded without perceptible market demand in the private sector. The new research built upon the previous work but is different in several ways. First, Rio Vista West was far from complete in 2000, so it would not have been possible to measure how effective it was as a fully occupied and working TOD, as this new research does. Second, with the passage of nearly 20 years, we can also now observe what impact San Diego’s TOD design guidelines had on the relative success or failure of Rio Vista West. Third, the new research focuses directly on lessons for professional practice, including the formulation of effective TOD policies and the design of flourishing TOD projects.

Phase 2: Update on Case Studies: I performed a literature review of the current status of San Diego’s TOD design guidelines as well as the Rio Vista West project, by searching for newspaper and magazine

articles, public documents such as reports, and websites of professional organizations such as the APA, ULI, and CNU. In recent years, Rio Vista West has figured prominently as one case study among many in scholarly research as well as professional reports on the state of the art of TODs in the United States.

Phase 3: Field Research: I contacted key stakeholders such as planners in the City of San Diego, representatives of current owners Sudberry Properties, condominium owners association, retail and office tenants, and community groups such as neighborhood associations from nearby areas for interviews during a 10-day field trip. The field research also consisted of documentation and analysis, including photography of how the development is occupied and utilized (e.g. transit use, walkability) and how the surrounding area has developed, public policy documents such as updated design guidelines and land use regulations, and examples of recent TOD projects that fall under the guidelines and may have been influenced by the design of Rio Vista West.

Phase 4: This report is the culmination of these research methods and efforts.