Getting on the Right Track: Realizing the Development Potential of Light Rail

A case study analysis of development around Cross County MetroLink light-rail stations in St. Louis, Missouri and policy recommendations for encouraging transit-oriented development

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1. Executive Summary

Transit-Oriented Development, or TOD, is development with a mix of uses focused around transit stations, including light-rail stations and bus stations. The blend of uses usually includes commercial space, residential space, retail space and other civic, educational or artistic uses. TOD is designed to be densest around the station. Apartments and retail space and offices exist in the same buildings closest to the station with parking provided by garages and small parking lots located on the interior of the buildings. The development becomes progressively less dense the further it is located from the station, with single-family homes on larger lots forming the outer ring of the development.

TOD is generally accepted as the most efficient way to build around transit to get both the highest and best use of expensive transit infrastructure and to derive the most public economic and social benefits from transit.

TAD, or Transit Adjacent Development, is a weaker, less beneficial form of transit-area development. TAD has conventional suburban development patterns, with single-use buildings (single-family homes on individual lots, “big-box” retailers, office and industrial parks, and shopping centers) and conventional surface parking lots that provide parking for each individual use. With TAD, the economic and social benefits of a development’s proximity to transit are limited or eliminated.

TOD faces a variety of private and public challenges and obstacles. These challenges can be broken into five areas, including liabilities derived from the location of the station and rail line, market cycles, government policies, institutional barriers and coordination between agencies and a fixation on automobile-oriented design.

In St. Louis, Missouri, along the Cross County MetroLink light rail line, it appears that municipalities and developers are choosing to build low-density TAD's adjacent to transit, instead of TOD's.

A combination of two methods, the case study method and grounded theory, are used to examine recent developments around each of the nine new (and tenth pre-existing) stations on the Cross County MetroLink light rail line in St. Louis, Missouri. Each station and development is analyzed using criteria derived from the literature and covering locational aspects including market and land use criteria, governmental involvement, agency coordination, and physical design.

An analysis of the results of the study shows that:

- **A major consistent obstacle of TOD are locational liabilities deriving from land acquisition issues and station placement issues more than market issues and inappropriateness of land for development.**
- **Station sites that are visible from major traffic arteries are appealing from both a market standpoint and seem to be more popular with TOD-style developments than stations that are hidden away from adjacent traffic corridors.**
- **The station-areas with the highest amount of TOD-style development have aid from their governments in the form of economic development tools and land acquisition and/or have particularly strong markets.**

- **Governments that have TOD-supportive zoning that allows for mixed-use and high-density development have more TOD-style development than governments without such zoning.**

- **TOD occurs more with governments that have encouraged shared-parking and using smart parking techniques to help reduce parking costs without discouraging potential tenants.**

- **Developers can overcome tenant fears by finding businesses that have previous experience in TOD developments or by educating new businesses to the benefits of such pedestrian-friendly environments.**

- **Metro and the municipalities were not involved in the planning or decision making when it came to where the line was going and where the stations were to be placed.**

Ten policy recommendations are presented to overcome these obstacles to TOD. These policies address locational liabilities, market cycles, local government support and regulations, development design and accommodating automobiles, and agency coordination and competitive station planning. The policies are:

1. **Using Increment for Land Assembly**
2. **Using Metro's Aid in Acquisition**
3. **Siting stations where surrounding pre-existing land uses are compatible with redevelopment**
4. **Siting stations in areas that have a potential for visibility from other modes of transportation**
5. **Exploring land assembly options like eminent domain and increment financing**
6. **Using smart-growth parking numbers and facilitate shared parking across developments**
7. **Designing around stations to maximize the benefit of that station**
8. **Educating and informing developers on how to find the right tenants.**
9. **Agency coordination and communication through a regional leader**
10. **Competitive Station-Area Planning**

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3. INTRODUCTION

Introduction to Problem

Transit-Oriented Development, or TOD, is readily acknowledged as a popular neighborhood planning design with developers and planners alike, with plans proposed, in construction, or completed all over the United States. TOD's, while defined more carefully below, are loosely defined as mixed-use, pedestrian-friendly developments featuring dense, urban centers adjacent to transit stations. These centers are surrounded by progressively less dense rings of residential or commercial uses that are all within a reasonable walking distance of the center ring. As the New Urbanists, Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck say,

> The only urban form that efficiently accommodates mass transit is the neighborhood, with its mixed-use center and its five-minute-walk radius. Only within a neighborhood structure will residents readily walk to a bus stop or tram station.[1]

TOD is the most efficient way to build around transit to get both the highest and best use of transit and the most economic and social benefits that derive from the existence of transit.

However, cautions Hank Dittmar of the Great American Station Foundation, "The amount of hype around TOD exceeds the progress to date… [Current examples of] TOD's have conventional suburban single use development patterns, with conventional parking requirements, so that the development is actually transit-*adjacent*, not transit-

[1] Duany, et. al. (2000), p. 138.

oriented."[2] TOD, as appealing as it is in theory, is not getting implemented as often as it could or should be in the development of areas around transit stations. Instead, developers and municipalities are ending up with Transit-Adjacent Development (TAD). TAD exhibits the same programming and land-use patterns as low-density, car-oriented development, but is adjacent to a transit station. With TAD, the economic and social benefits of a development's proximity to transit are limited or eliminated.

Light rail and other forms of rapid mass transit are expensive to build and maintain. Fare box recovery, while often enough to cover a significant percentage (20%-50% for most rail systems) of the maintenance and operation costs of a system, is not enough to pay for the entirety of operation and no where near enough to offset the capital costs of building expensive infrastructure and new lines. With a limited amount of public money available to support expensive light rail and other transit projects, there is an increasing need to show that the purported potential economic and social benefits of transit are real and are being achieved. Most of these benefits cannot be achieved without the right kind of development around transit stations.

Statement of Problem

Cities and states are investing millions of dollars in the creation of light rail lines, with one of the justifications of this spending being economic development. Studies regarding economic development and growth associated with the type and style of development around stations have shown that Transit Oriented Development enhances and multiplies the economic effects of rail transit.

[2] Dittmar, Hank as quoted in Tumlin (2003), p. 14.

In St. Louis, however, it appears that municipalities and developers are choosing to build low-density sprawl-like TAD's adjacent to transit, instead of the more regionally economically beneficial TOD's. To effectively justify the expense of transit to the region, the factors that contribute to this less-intense and inefficient use of transit-adjacent land must be better understood. And, more importantly, policies and programs that can help to slow or reverse this pattern of unproductive development should be presented to and implemented by the municipalities, agencies and the region as a whole.

Research Questions

In September of 2006, the St. Louis Transit Authority (Metro) opened the Cross County Extension to the MetroLink light rail system with a total development cost (without including disputed costs) of over $500 million. With the light rail reaching more people and connecting more places, ridership has gone up[3], and more developers seem to be interested in sites and neighborhoods adjacent to rail stations for new development.

But what is being developed around St. Louis MetroLink Stations? Do the proposed and existing developments adjacent to St. Louis Cross County MetroLink stations fall into the TOD category or the TAD category? What are the political, economic, and geographical reasons for the forms that the development is taking? Why are developers choosing to build what they are building? Is the development a result of municipal decisions regarding zoning and land use, the presence of pre-existing development preventing the development of large scale TOD's and/or the lack of a regional plan for TOD and transit-related development planning? What role, if any, does

[3] Crouch (2007).

the metropolitan planning organization (East-West Gateway) or Metro have in the planning and design of these projects?

This capstone explores the design and features, policy environments, and additional factors that contribute to the type of development occurring near stations on the Cross County expansion. It examines the motivations behind St. Louis developers' decisions in the design and programming of their projects near transit. In addition, it surveys planners, city managers, public officials, Metro staff and East-West Gateway staff to determine their attitudes and opinions regarding TOD and station-area redevelopment plans. Finally, it compares the previous and current land use and zoning around MetroLink stations to draw a connection between developer and municipal attitudes, regional planning and the type of development that is occurring around Cross County MetroLink stations.

History and Planning of MetroLink and Cross-County Route

In 1988, the federal government agreed to match the funding of Bi-State Development Agency's (now Metro) funding for the construction of the first line of light rail. Part of the City of St. Louis' financial match was met by contributing the railroad right-of-way. The federal funding enabled Bi-State to break ground in 1990 on the original MetroLink line, which would eventually extend from East St. Louis to Lambert International Airport. In 1993, the first line opened to the public and exceeded its ridership estimates within one year.

In 1995, Bi-State began construction of the St. Clair County MetroLink extension which extended the track on the Illinois side of the region out to Belleville and then to

Scott Air Force Base. The first part of the extension opened on May 7, 2001, with the Scott-Shiloh extension opening on June 23. Again, the extension reached record ridership within months of opening.

In 1994, Bi-State introduced the original plan for the Cross County Extension, which included plans to cross Forsyth Blvd at grade. In 1997, these plans were modified with alternatives that included tunneling under Forest Park. In November 2000, the finalized plan, which included two tunnels down Forest Park Parkway and the rest of the project at grade or elevated, was adopted. The line was financed 100% locally, with a ¼ cent sales tax in St. Louis City and St. Louis County.[4]

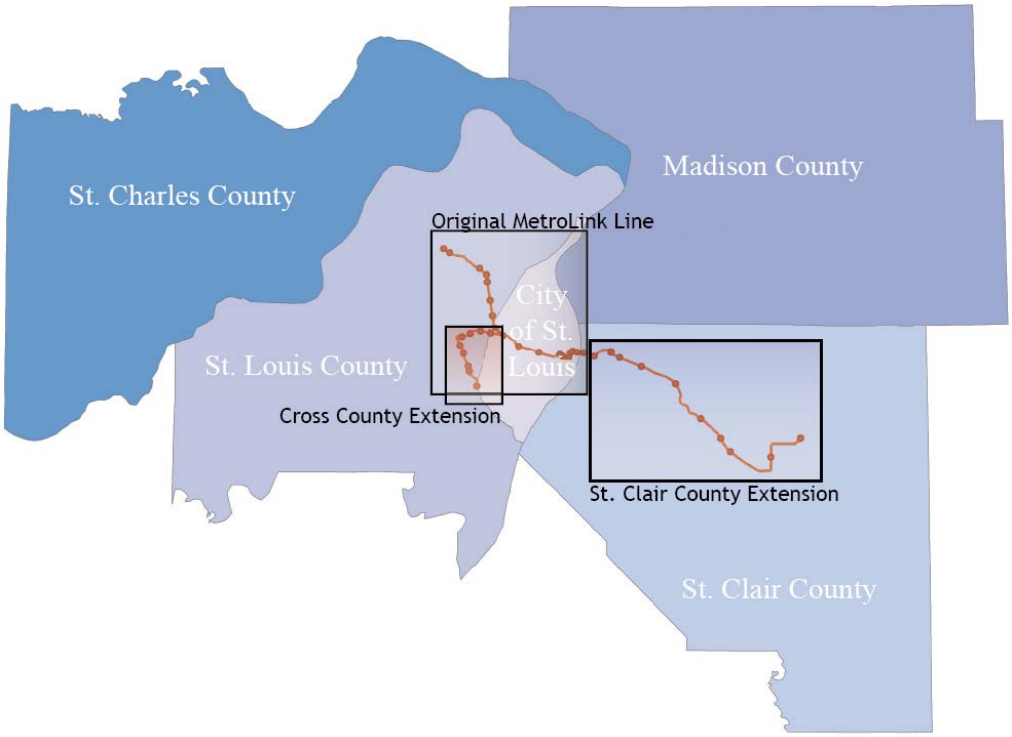

Figure 1: Map of the entire MetroLink system in the context of surrounding counties

[4] Letter from Larry Salci, 2005. p. 2.

The Cross County line branches off the original MetroLink line at the DeBaliviere station and follows alongside Forest Park Parkway through two tunnels (and two underground stations, Skinker and Big Bend, and one below-grade station, Forsyth) before emerging at grade at the Clayton stop. From Clayton, the line travels on railroad right-of-way south through Richmond Heights, Brentwood and Maplewood, veering off the right-of-way only to bisect Sunnen Business Park, and then terminates at a large, surface park-and-ride lot in Shrewsbury.

Despite the lawsuits between the engineering firms and Metro, on August 26, 2006, the Cross County MetroLink Expansion opened with record ridership numbers.[5] In addition to record ridership, the extension opened up the potential for TOD at the nine new stations and a new opportunity for local and regional economic development.

Case Study Method / Grounded Theory

In this study, the case study method and grounded theory are used to examine each of the nine new (and tenth pre-existing) stations on the Cross County MetroLink line.

A combination of the grounded theory and the case study approach was used because the answers to the research questions were not immediately obvious, nor was it obvious that the right questions were being asked. Grounded theory allowed the questions and assumptions to change as needed and adjusting the coding and relationships between phenomena with each new dataset. The case study approach was chosen because the important question being asked was one of "why?" Each station was looked at as a separate scientifically uncontrolled case, to be examined in an exploratory

[5] Crouch (2007).

manner, with both qualitative and quantitative data gathered and analyzed. Through the combined approach, a theory emerges about why developments around Cross County MetroLink are taking the form and shape that they are.

4. REVIEW OF THE LITERATURE

Introduction to the Literature: TOD vs. TAD

Transit-Oriented Development is loosely defined as mixed-use, pedestrian-friendly developments featuring dense, urban centers adjacent to and centered on transit stations. These centers are surrounded by progressively less dense rings of residential or commercial uses that are all within a reasonable walking distance of the center ring. It is argued that TOD is the most efficient way to build around transit to get both the highest and best use of transit and the most economic and social benefits that derive from the existence of transit.

By contrast, Transit-Adjacent Development, or TAD, is TOD's "evil twin."[6] TAD's display suburban-style single-use development patterns, with conventional parking requirements. TAD's exhibit the same low-density, car-oriented land-use patterns as non-transit-area developments, but are adjacent to transit stations. With TAD, the economic and social benefits of a development's proximity to transit are limited or eliminated. As Arrington explains, "To realize the benefits of TOD it is not enough for development to be adjacent to light rail. The development must be shaped by transit."[7] As shown in Figure 2, which shows the same land use with TOD design and with TAD design, the design elements that make TOD work are eliminated in TAD and so are the benefits that might be achieved by quality, transit-area development.

This chapter discusses the benefits of TOD compared to both low-density, non-transit-area development and TAD, the design of TOD compared to TAD, and the

[6] Arrington, 2003, p. 192.
[7] Ibid.

obstacles preventing the construction of TOD and leading many municipalities to develop TAD instead of TOD.

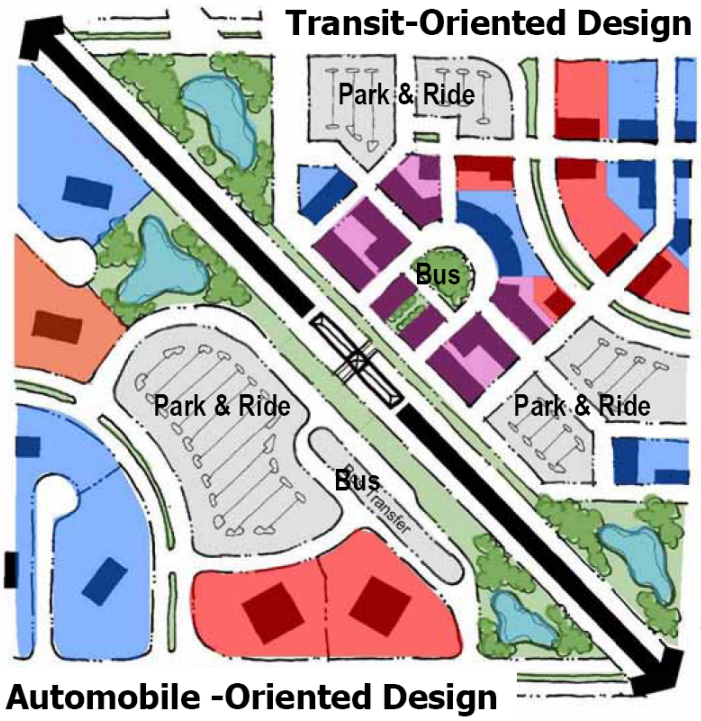

Figure 2: TOD compared to Transit-Adjacent, Automobile-Oriented Design. (From Arrington, 2006)

Benefits of TOD and Transit Use

The appeal of TOD as a development type largely derives from a belief in the impacts that TOD-style development can have within the region. These impacts can be on the environment, tax revenue, property values, transit use and the society at large. These goals of TOD, if achieved, are an impressive set of benefits. In their report for the California Transportation Department, Arrington and Parker outline ten benefits that can derive from TOD. [8] Two additional benefits pointed to by the literature are social equity

[8] Arrington and Parker, pp. 4-10.

and quality of life (Downs 2004, Bernick and Cervero 1997) and the increase of private property values around stations (Cervero, et al, 2002).

The twelve benefits that derive from TOD can be broken into two types: private benefits and public goods. Private benefits include a reduction in rates of vehicle miles traveled (VMT); an increase in households' disposable income; and an increase in property values. The public goods include goods that are beneficial on a local level, like an increase in public safety and a decrease in infrastructure costs. And the public goods include largely regional benefits like an increase in mobility; an increase transit ridership; a reduction in air pollution and energy consumption rates; conservation of resource lands and open space; economic development; an increase in social equity and quality of life; and more affordable housing. All twelve of these benefits are discussed in detail below.

A reduction in rates of vehicle miles traveled (VMT) (Private)

Since the 1950's, the United States has experienced a steady increase in automobile travel and road building. Congestion and longer commutes from less dense areas waste precious resources like time and fuel, cause economic inefficiency by delaying shipments, act to decentralize jobs and housing and have detrimental psychological effects.[9]

TOD, by increasing bicycle and pedestrian trips within station areas as well as transit use, is said to reduce rates of vehicle miles traveled (VMT) and ease congestion within metropolitan areas. Reid Ewing found that doubling urban density results in a 25-30 percent reduction in VMT.[10] Bernick and Cervero state that, "Transit is one of many

[9] Downs, p. 3.
[10] Ibid.

possible alternatives to road expansion for staving off traffic congestion."[11] Litman agrees that "there is abundant evidence that high-quality, grade-separated transit does reduce traffic congestion."[12] TOD, as a concentrated development, "can induce spatial shifts in travel"[13] between and around TOD's. Ewing explains that TOD can reduce congestion by providing alternative modes of travel and alternative centers of density that are accessible by many modes.[14]

Anthony Downs disagrees. The reduction in VMT, while it reduces detrimental environmental effects caused by the single-car user, does not necessarily reduce regional road congestion. Congestion cannot be solved by more road building or by investing in transit. Downs' *Theory of Triple Convergence* states that if an improved roadway is built, three types of convergence will occur on the improved roadway until traffic congestion reaches the same level it was at before the improvement.[15] Drivers who before the improvements used different routes will begin to use the newly improved route (spatial convergence), drivers who traveled at different times of day will adjust to more regular hours (time convergence) and drivers who were using other forms of transportation will switch to driving (modal convergence). And so, with the three types of drivers now converging on the new highway, the road will become just as congested as it was before it was improved.[16] The only way to reduce triple convergence (and, congestion) is to toll roads which will result in some drivers moving off the roads and onto alternative modes of transit. But, according to Downs, transit itself does not lead to

[11] Bernick and Cervero, p. 45.
[12] Litman, p. 1.
[13] Ibid.
[14] Ewing, p. 114.
[15] Ibid., p. 83.
[16] Ibid.

decreased congestion; it just leads to other people, who were using the roads at other times or who were using other roads, switching back to the main artery.

In addition to this dispute about the effects of transit on congestion, directly around stations and TOD's, traffic congestion can become worse due to higher densities and fewer parking places. However, the congestion caused by dense TOD-style development is more energy and economically efficient because, while cars operate less fuel-efficiently in dense areas, per capita fuel consumption is much lower because people use cars so much less.[17] Reid Ewing found that households living in the most accessible locations spend forty minutes less per day traveling and the savings are almost all due to shorter car trips.[18] Even with the increased density and, therefore implied increased congestion, average commuting times are longer in the suburbs than the central cities.[19] This is not because commuting times on transit are shorter than commuting times in cars (which they are not), but because the distance between places is shorter in more dense areas.

An increase in households' disposable income (Private)

Housing is the first largest household expense and transportation is the second largest household expense.[20] TOD can reduce driving costs by $3000-$8000 per household per year, freeing up disposable income. This is the justification behind programs such as the Location-Efficient Mortgage (LEM) program offered by lenders and Fannie Mae.[21] A LEM is based on the principal of households being able to trade off lower transportation

[17] Newman and Kenworthy, p. 163.
[18] Ewing, et al. (1994), p. 1.
[19] Ewing (1997), p. 113
[20] Arrington and Parker, p. 7.
[21] For more information on Location-Efficient Mortgages, see http://www.locationefficiency.com.

costs for higher housing payments. Because people who live in pedestrian-friendly, mixed-use areas are able to drive less and might even eliminate the need for a car entirely, they have more disposable income. LEMs combine this increase in disposable income with low down-payment requirements and competitive interest rates to allow residents of efficient locations to get a mortgage for which they would not otherwise qualify.

An increase in private (and public) property values (Private)

TOD's are purported to increase land values. Private sector land values have been shown to increase near rail in some cities. In other cities, the effect is shown to be neutral.[22] In Dallas, for example, median values of residential properties near DART stations increased 32.1 percent compared to 19.5 percent in the control areas. In commercial space, the difference was even greater: 24.7 percent for the DART properties versus 11.5 percent for the non-DART properties.[23] In their 2005 report of investments around Dallas Area Rapid Transit (DART) stations, the same researchers discovered that since 1999, total new investment built or planned around DART stations is more than $3.3 billion and concluded that "DART is helping the stimulate the local economy and bring new vitality to both the City of Dallas and to the core areas of DART's suburban member cities."[24]

However, Cervero points out that "no studies could be located that gauged real estate benefits associated with TOD's themselves" and not just rail-transit in general."[25]

[22] Cervero, et al. (2002), p. 36
[23] Weinstein and Clower, p. 2
[24] Ibid., p. 2
[25] Cervero, et al. (2002), p. 35.

An increase in public safety (Public-Local)

The general perception of suburban residents is that denser, more urban areas have much greater crime rates. However, studies by Newman and Kenworthy and environmental psychologists have shown that density and crime are not linked.[26] In addition, well-designed TOD creates "defensible space." Defensible space is an area that is naturally protected by constantly changing "eyes on the street" provided for by the mixed-use nature of the area. In addition, effective lighting, ground-floor retail and a visible police presence will reduce actual crime rates and increase the sense of safety and well-being for users of the TOD.[27] In addition, pedestrians and bicyclists benefit from the less hazardous settings created by TOD's.[28]

A decrease in infrastructure costs (Public-Local)

According to Arrington and Parker, TOD, as compact infill development can help local governments reduce infrastructure costs by up to 25%.[29]

However, most residential developments, whether in sprawl or more efficient forms of development, do not generate sufficient funds from property taxes to meet the public costs of serving them. To TOD's credit, "sprawl developments fare more poorly than do compact and contiguous developments."[30] In addition, while per capital public infrastructure costs lower as densities rise, "at very high densities, the special needs of high-rise structures may cause the cost function to turn upwards."[31] Compact, infill

[26] Benfield, et al., p. 134.
[27] Project for Public Spaces, Inc., 1997, as cited in Cervero (2004), p. 128.
[28] Cervero (2004), p. 128.
[29] Arrington and Parker, p. 6.
[30] Benfield, et al., p. 107.
[31] Ewing, p. 115.

development reduces infrastructure costs compared to low-density development, but does not pay for itself.

An increase in mobility (Public-Regional & Local)

As documented in *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*, commuters, non-car drivers (including the handicapped, the elderly, those too poor to own a vehicle, those who do not wish to drive, and the young), and other suburban residents must drive or be driven to reach any destination.[32] Transit provides additional mobility options to the traditional car. By creating "activity nodes" at stations that are linked by transit, people with fewer choices are given more choices in how to get around and the places they can go.

TOD's serve to connect residents with jobs and opportunities in other, linked nodes and, therefore, help to overcome the "spatial mismatch problem" of the isolation of jobs from housing.[33] (Spatial Mismatch is further discussed in the "Increase in Social Equity" section below.) No studies seem to have been done on the empirical or perceived increase in the mobility of different types of residents created by TOD, although (as cited below in "An Increase in Ridership") increased use by all residents is documented.

An increase in transit ridership (Public-Regional)

An increase in the number of opportunities to live and work near transit results in an increase in transit use. A 2004 study[34], following up on an earlier report, found that residents living near transit stations are five times more likely to commute by transit as

[32] Duany, et al. (2000), pp. 113-133.
[33] Bernick and Cervero, p. 47.
[34] See Lund, Cervero and Wilson, 2004.

the average resident worker in the same city. In addition, office workers in TOD's are more than 3.5 times as likely to commute by transit, and transit accounts for about one-fifth of trips to retail sites in TOD's (walking accounts for an additional one in ten). Arrington and Parker conclude that "TOD improves the efficiency and effectiveness of our transit service investments by increasing the use of transit near stations by 20 to 40 percent."[35] One caveat to these studies is self-selection. In Hollie Lund's 2006 study, only about one-third of residents cited "access to transit" as one of their top-three reasons to live in a TOD.[36] Further, the residents of TOD's were likely to have higher household incomes but were no less likely to have private cars. Residents who did cite transit as one of their top 3 reasons were nearly 20 times more likely to use transit. This evidence of self-selection suggests that the increase in ridership results in the other studies might be distorted.

A reduction in air pollution and energy consumption rates (Public-Regional)

In some senses, this argument is a further extension of the reduction of VMT. If VMT and congestion are reduced, air pollution and consumption of energy is also reduced. Vehicle emissions increase with distance and decrease with average operating speed. This gives compact development like TOD an advantage over sprawl when an automobile is used. With the addition of access to transit and alternative modes of transportation, TOD can further lower rates of air pollution and energy consumption. If the TOD encourages and enables larger shares of rail trips accessed by walk-and-ride and bike-and-ride, the rates are even lower.

[35] Arrington and Parker, p. 4.
[36] Lund (2006), p. 365.

This advantage is diminished somewhat by the carbon emissions associated with car starts. If an auto is used at all, even on short trips, these emissions are produced and should not be ignored.[37] In addition, half-full trains and buses are less energy-efficient than full trains and buses, and this inefficiency needs to be accounted for in any study of reduction of energy consumption.

Conservation of resource lands and open space (Public-Regional)

Because TOD consumes less land than low-density, auto-oriented growth, it reduces the need to convert farmland and open spaces to development. Farmland and open spaces provide many privately-undervalued public goods. Open space provides areas for stormwater management, groundwater recharge, water pollution control, habitat and biodiversity.[38] The loss of open space results in the loss of all of these private goods. However, it may be questioned whether TOD necessarily protects open space and farmland. Without a region-wide policy protecting development on these lands, TOD and other forms of compact development compete with sprawl-style development but do not eliminate low-density development.

Economic development (Public-Regional & Local)

Transportation agencies often justify the high expense of building transportation infrastructure (including highways, rail and light rail) by citing potential economic development related to rail lines. But, as Weisbrod and Grovak point out, "*economic*

[37] Ibid., p. 115
[38] Ewing, p.116.

development is itself vague."[39] The boundaries of economic development could extend to streets, neighborhoods, municipalities, cities, regions, or entire states. Job growth is often the standard measure of economic development, but so is an increase in land values and taxes collected (discussed below in "An Increase in Private (and Public) Land Values) as well as an increase in worker income (which has been discussed above in "Increase in Disposable Household Income.")

Aside from the jobs that are directly located inside a TOD (which may in themselves be migrating from within the region), job growth is difficult to measure as a direct offshoot of rail transit development. It is difficult to isolate the variable of rail transit from other economic development policies and programs. In 2004, the Surface Transportation Policy Project, a Washington D.C. lobbying organization, released a report that shows that more direct jobs are created in connection to public transportation construction than new road construction and road maintenance. According to the report and as shown in Figure 3: Job creation by investment type (From Surface Transportation Policy Project, 2004)., public transportation spending creates 19% more jobs than road spending. But these are "internal" jobs – jobs created in connection to the construction and maintenance of rail transit infrastructure. The quantity of "external" jobs – those jobs created by the presence of transit in a region - is much harder to measure. As Baum-Snow and Kahn explain, "Due to data limitations (namely that zip code level employment data before 1994 does not exist), we are unable to test whether employer location decisions are affected by the location of rail transit."[40] They go on to explain that any study of local employment dynamics would have to take into consideration the appeal of

[39] Weisbrod and Grovak, 2001. p. 2.
[40] Baum-Snow and Kahn, 2005. p. 191.

living near public transit to those with the fewest resources, and therefore those with the fewest employment prospects.

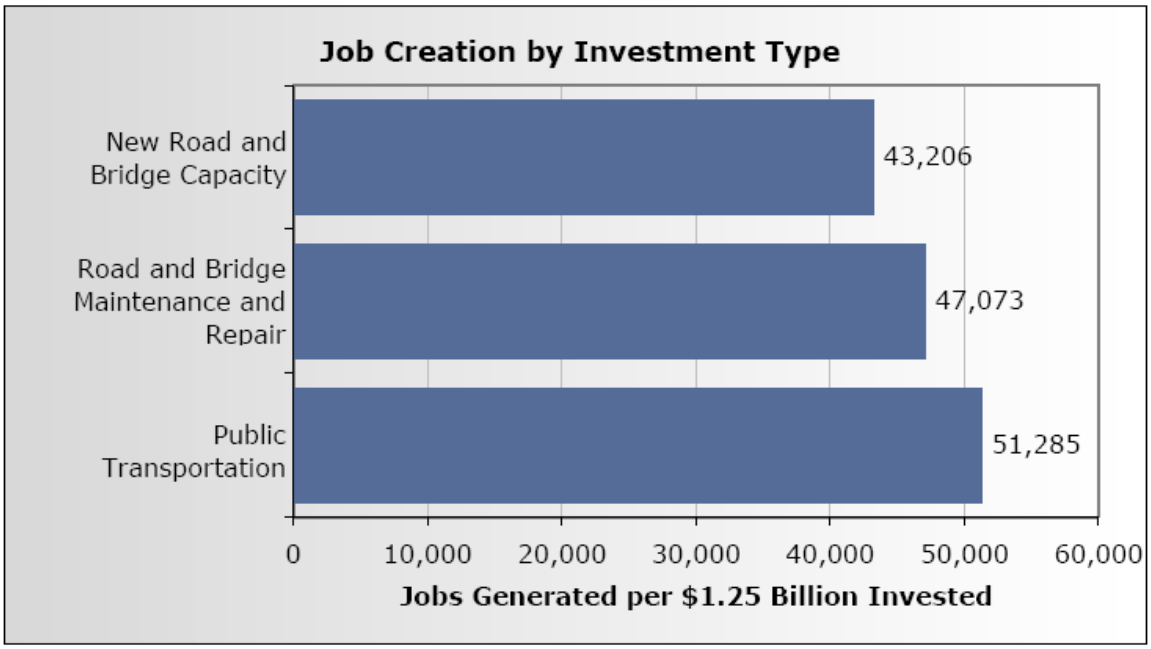

Figure 3: Job creation by investment type (From Surface Transportation Policy Project, 2004).

More affordable housing (Public-Regional)

To a certain point (and to certain heights), compact development patterns reduce housing costs for land and structures.[41] In addition, by reducing household transportation expenditures, households have more disposable income to spend on rent and mortgages. With this extra income, low-income renters can afford the higher-rents in denser, often more-expensive TOD areas.[42] TOD housing becomes even more affordable in areas where parking expenses are particularly high. A housing unit without a parking space in San Francisco is $460,000 compared to $390,000 for a unit without a space.[43] Finally, the structure and nature of TOD can allow for subsidized housing: "TOD does not have

[41] Arrington and Parker, p. 6.
[42] Cervero (2004), p. 125.
[43] Ibid.

to be an innovation that serves only the affluent or environmentally conscious. … the best ones incorporate a large portion of affordable housing and/or make a substantial attempt to create good jobs that can be filled by people from working families."[44]

Increase in social equity and quality of life (Public-Regional & Local)

Three-quarters of welfare recipients live either in center cities or rural areas.[45] Jobs, by contrast, are increasingly located in suburban areas.[46] This is what is known as the "spatial mismatch" problem. Without reliable mobility, those with the greatest need of jobs also suffer from the greatest obstacles to getting one. TOD, by providing affordable housing, extra household income, or accessible jobs, day care, educational opportunities, and retail opportunities, can help eliminate the spatial mismatch problem by connecting people to opportunities.

Pro-low-density researchers, Peter Gordon and Harry Richardson argue that "the location decisions of households are influenced less by workplace accessibility than the availability of amenities, recreational opportunities and public safety." However, if TOD provides these amenities, along with the public safety benefit cited above, then TOD should be attractive for residents of all income levels, especially if it connects them to essential jobs and opportunities.

As well as social equity, TOD and compact development is said to increase the nebulous "quality of life." Usually what researches refer to as "quality of life" is really a sense of community and public life. The more pedestrian trips occur in a limited area or core, the greater the opportunity for casual encounters between pedestrians, both positive

[44] Grady and LeRoy, p. 1
[45] Benfield, p. 125.
[46] Ibid.

and negative. This decreases isolation and contributes to a sense of knowing one's neighbors and "to a livability that is lacking in modern suburban development."[47] The loss of private space in a TOD is counteracted by an increase in public space and an opportunity for people of all types to interact and communicate with each other. Hollie Lund's study demonstrated the appeal of this increase in quality of life. Residents were equally or more likely to choose to live in a TOD neighborhood because of quality of the neighborhood in addition to transit opportunities.[48]

Summary of Benefits of TOD

In analyzing the potential benefits of TOD, it is important not to double-count benefits and to show that the perceived or proposed benefit is actually being achieved. This study does not purport to analyze the benefits of TOD, only to examine the presence or lack of TOD along the St. Louis MetroLink line. However, even in this brief overview of the benefits of TOD, some double-counting of benefits and disputes over benefits seem to be occurring. The most obvious double-counting in the private benefits occurs with household income and savings. Affordable housing should be considered separate from opportunities like Location-Efficient Mortgages that occur because of increased disposable income. If this opportunity is eliminated or does not exist, then the affordable housing benefit is available only if affordable housing is planned within the TOD; it does not naturally occur because of the design of the TOD. Similarly, in the public sector, economic development benefits derived from increased disposable income should also be counted once.

[47] Calthorpe (1993), p. 37.
[48] Lund (2006), p. 365.

Much like affordable housing benefits, conservation of open space will only result from a development that includes conservation in its plan, through preservation density credits (in which a developer will purchase resource lands to preserve in exchange for being allowed to build more densely on the site) or mitigation areas. Without a direct policy, TOD will not automatically lead to the preservation of open space.

The Lund study shows that increased ridership does not inevitably derive from TOD but might be a natural correlation with the residents who choose to live in a TOD. Reduction in energy consumption, reduction of congestion, reduction of infrastructure costs, and an increase in jobs, real estate value and economic opportunities are equally disputed as direct public benefits of TOD.

However, mobility, public safety, and an increase in social equity and quality of life are relatively undisputedly direct public benefits of TOD and reduction in vehicle miles traveled is a direct private benefit. While they are less glamorous than a reduction in infrastructure costs or an increase in jobs, they are powerful benefits to the people who experience them.

Design and Features of Transit-Oriented Development

The theory behind the design of TOD stems from the work of four sets of authors: Jane Jacobs, Peter Calthorpe, the New Urbanists, and Michael Bernick and Robert Cervero. The four taken together show the gradual evolution of planning thought from Jane Jacob's loosely-defined pedestrian-friendly, human-scale New York neighborhoods to the precise designs of Calthorpe and the New Urbanists to the transit village "dimensions" of Cervero and Bernick. Each of the four sets of authors examines the

effect that the built environment has on the way that the environment is used and inhabited. In addition, all four propose that with the correct design, the economic viability of an area can be maximized while the social and environmental externalities of automobile-centered living can be minimized.

Jane Jacobs

The physical design of Transit-Oriented Development evolved from the idea that compact, mixed-use, pedestrian-friendly urban designs are a safer, more livable, more equitable, and more economically beneficial use of city space. This is an idea that has its origins in Jane Jacobs' seminal work, *The Death and Life of Great American Cities*. Jacobs theorizes that the success of her beloved Greenwich Village neighborhood in New York City was due to its diversity of uses, people, and architecture and to its inherent design as a pedestrian-friendly mixed-use area. "To understand cities, we have to deal outright with combinations or mixtures of uses, not separate uses, as the essential phenomena… A mixture of uses, if it is to be sufficiently complex to sustain city safety, public contact, and cross-use, needs an enormous diversity of ingredients."[49] Without diversity of use and people and sidewalks on which to convey them, a place becomes, "an economic desert."[50]

Jacobs sees automobile dependency as a problem for cities as well. "It is questionable," she observes, "how much of the destruction wrought by automobiles on cities is really a response to transportation and traffic needs, and how much of it is owing to sheer disrespect for other city needs, uses and functions… How to accommodate city

[49] Jacobs (1961), p. 144.
[50] Ibid. p. 145.

transportation without destroying the related intricate and concentrated land use? – this is the question."[51] Jacobs does not blame the car entirely for the destruction of many of America's urban centers, but it certainly plays a role in disrupting the other elements that make for a diverse and active city street. She does not recommend shutting down streets entirely to cars, but, rather, wishes to assert the pedestrian role in the street, emphasizing the use of sidewalks and first-floor active uses and implementing traffic calming measures to reduce speeds and traffic.

Finally, Jacobs asserts density in addition to diversity as the key to lively and exciting urban environments: "In dense, diversified city areas, people still walk, an activity that is impractical in suburbs and most gray areas. … even people who come into a lively, diverse areas from outside, whether by car or public transportation, walk when they get there."[52] Density and mixed-uses, by their nature, encourage walking by providing interesting, diverse environments where moving a car from each place is impractical and unappealing.

Peter Calthorpe

Over thirty years later, Jacobs' ideas were expanded upon and given a physical / visual component in the work of Peter Calthorpe. In his, *The Next American Metropolis*, Calthorpe gives hard design guidelines to support Jacobs' theories. He blames the low-density sprawled development of many American cities for the "crisis of place" many Americans now face in a "landscape of isolation."[53] The solution he offers is similar to Jacobs' ideas of three decades earlier: high-density, mixed use, public-focused

[51] Ibid. p. 339.
[52] Ibid. p. 130.
[53] Calthorpe (1993), p. 18.

developments. However, he offers a slightly different angle: transportation and an accommodation of suburban-style housing desires. Calthorpe proposes TOD's, with their dense centers slowly easing out into lower-density neighborhoods with single-family home lots. Calthorpe defines TOD as:

> A mixed-use community within an average 2,000-foot walking distance of a transit stop and a core commercial area. TOD's mix residential, retail, office, open space, and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, foot or car.[54]

Calthorpe offers direct guidelines that every successful TOD needs: the guiding principals, the core area, the secondary and residential areas, parks, plazas, civic buildings, streets, pedestrian systems, and parking requirements. With the correct design, he asserts, the benefits of urban living, including improved community, ecology, and economic opportunities will necessarily follow.

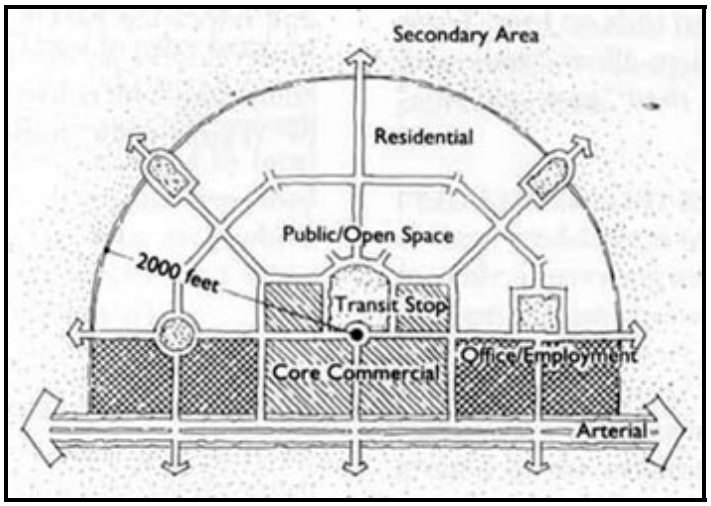

Figure 4: The design of Transit Oriented Development (From Calthorpe, 1993).

Calthorpe starts with three general guidelines for development: development should have a compact urban form served by transit; single-use zoning should be

[54] Ibid., p. 56

eliminated in favor of mixed-use and walkable neighborhoods; and the public domain and human dimension should be emphasized, not the private domain and auto scale.[55] From these guidelines, he derives eight principals of transit-oriented development to achieve the correct design of TOD. These are:

- **Compact regional growth around transit**
- **Mix of uses within walking distance**
- **Pedestrian friendly connections**
- **Mix of housing types, densities and costs**
- **Preserve sensitive environmental habitats**
- **Public space**
- **Infill and redevelopment**[56]

Calthorpe emphasizes that these principals are "not new; they are simply a return to the timeless goals of urbanism"[57] that Jane Jacobs first described.

This definition encompasses the three sub-types of TOD's defined by the 1000 Friends of Oregon in their LUTRAQ (Land Use, Transportation, Air Quality Connection) Plan.[58] These types include *Mixed-Use Centers*, *Urban TOD's* and *Neighborhood TOD's*. It is important to distinguish between the three because all three are justifiable as Transit-Oriented Development but may have differences in their design and appearance.

Mixed-Use TOD's are town centers and commercial areas that pre-existed the transit station but had pre-existing conditions that made them favorable as transit stops in the transit planning process. Of the three types, these tend to have the highest densities and greatest percentage of jobs, because of their pre-existing nature.

[55] Calthorpe (1993), p. 41
[56] Ibid., p. 43
[57] Ibid., p. 43
[58] Calthorpe (2001), p. 111.

Both Urban and Neighborhood TOD's are rigidly defined by Calthorpe.[59] *Urban TOD's* are newly developed sites directly adjacent to stations that combine jobs, housing and commercial uses in a high-density center in an otherwise suburban or low-density area. *Neighborhood TOD's* are walkable, mixed-use areas within a reasonable distance of a train station (a short walk or a bicycle ride) that are dominated by less-dense residential uses with some neighborhood services, entertainments, retail and civic uses mixed in.

The New Urbanists

Jacobs' and Calthorpe's theories were finally physically manifested in the work of the "New Urbanists." Andre Duany, Elizabeth Plater-Zyberk and Jeff Speck. Through their developments such as Seaside, Florida, they demonstrated that many of the theories of Jacobs and Calthorpe could be put into practice and could be shown to be successful. The New Urbanists emphasize the same connectivity, mix of uses, density, pedestrian-scale, and public space as Calthorpe. Interestingly, the weakest link in many of the New Urbanist developments is the lack of quality transit to and from the project, indicating that Calthorpe's theory that transit is necessary at the center of the site is correct.

Michael Bernick and Robert Cervero

The biggest problem with new urbanism and new urbanism's form of TOD is that the heart of TOD, the transit, is merely another component in the grand scheme, not the centerpiece and reason for the development. Bernick and Cervero pick up on this lack of transit in *Transit Villages in the 21st Century*. Instead of defining TOD as *occurring*

[59] Calthorpe (1993), p. 57.

"within 2,000" feet of a transit station, they define them as "centered around the transit station that, by design, invites residents, workers, and shoppers to drive their cars less and ride mass transit more."[60]

Bernick and Cervero emphasize three dimensions of successful transit villages to distinguish TOD from other kinds of "New Urbanist," compact, urban development.[61] The dimensions are physical attributes that have a direct impact on transit ridership. The dimensions are: density, diversity and design. Density is defined as having enough people living, working and shopping near the station to generate high ridership. Diversity means a mix of housing types, land uses and ways of mixing and interacting with other people using the TOD. And design is meant to create a physical space that encourages and supports walking, biking and transit-riding.[62] The application of all three dimensions will result in a transit village that achieves all the benefits mentioned in the section above.

Defining TOD

The problem with all of the above definitions of TOD is that there are no fixed levels for each of the components. Calthorpe makes a strong case for building within "2,000 walking feet" of a station and roughly defines distances for different levels of density but density levels for successful TOD's are not set at a specific number of units per acre, the mix of uses could be inter-station area or intra-stations, and the necessary diversity in types and styles of housing is not set at a percentage of affordable to market-rate or the percentage of detached to townhomes and to multi-family units.

[60] Bernick and Cervero, p. 5.
[61] Ibid., p. 73.
[62] Ibid.

Beltzer and Aulder, in their call for a "performance-related" definition of TOD, point out:

> No universal working definition of transit-oriented development exists… This lack of clarity in the definition of TOD may exacerbate legitimate disagreements about what constitutes "good" TOD. Should TOD aim to maximize revenue to the transit agency… or to help revitalize the station area?"[63]

Of course, the response to their question is that TOD should aim to do both: increase ridership *and* revitalize the station area, as well as achieve the benefits mentioned in the "Benefits" section above. But since no performance-related definition yet exists (and such a definition can only be measured after the project has been built as shown by the proposal in Beltzer 2002b), for the purpose of this study, it is necessary to define a list of features and design elements that are generally accepted as necessary to achieve the benefits and goals of TOD, as defined by the literature. This list of defining characteristics can be found in the Methodology Section.

Obstacles and Challenges to Building TOD

Station-area development is often limited by a variety of private and public challenges and obstacles. Porter, in his 1997 TCRP Report, breaks the challenges into five general areas: Locational Liabilities, Market Cycles, Government Policies, Institutional Barriers and Fixation on Automobile-Centered Design.[64] Cervero, in his 2004 TCRP Report, breaks them into three general areas: Fiscal, Political and Organizational.[65] Porter's breakdown more accurately summarizes the obstacles to TOD in particular and not to

[63] Beltzer (2002a), p. 19
[64] Porter (1997), pp. 11-12.
[65] Cervero (2004), pp. 99-109

high-density, in-fill development in general. Each of these five general areas is explained in greater detail below.

Locational Liabilities

The location of transit stations, especially with new light rail development, is often determined by the re-use of existing railroad right-of-way or, if the line is an in-road line, the route of a large, arterial street. The potential market and development opportunities are rarely a determining factor in placing the stations; instead the stations are placed where they fit on these existing corridors. As a result, the sites of stations suffer from many locational liabilities, including land assembly issues, redevelopment challenges, land use conflicts, environmental issues and market factors. Sites near the station that have the potential to host TOD might have multiple-owners and owners that do not wish to sell making land assembly an expensive challenge. The sites might already be developed as lower-density sites, again, increasing the cost of land. Often, railroad rights-of-way may go in the middle of established industrial areas leading to neighboring land-use conflicts. Undeveloped areas might have characteristics that make them undevelopable like poor soil, overhead power lines, hazardous waste or flood plains. Historically, land around railroad rights-of-way is often devalued because of the rail and this might lead to deterioration and disinvestment in the neighborhood, making the market for TOD development less strong.

Real Estate Market Cycles

If the market cannot support mixed-use, higher-density projects, the projects will not be built. Positive government action and subsidy can spur TOD in cases where the original market is not strong enough to support the development but where the market has the potential to grow after the establishment of the TOD. However, even with government intervention and action, in many areas adjacent to stations, the market does not exist to support TOD. Where the most successful TOD has occurred, the development often "stemmed directly from the market forces that responded to desirable characteristics of development sites."[66] Government intervention to aid TOD (aside from placing stations in locationally desirable areas) is effective only when supplementing market forces. Governments, by themselves, are unable to create markets for TOD.[67]

Non-Supportive Government Policies and Regulations

Existing government polices can result in promoting TAD design over TOD and may prevent successful station-area development.

Municipalities often use single-use zoning and density limits to prevent undesirable uses to encroach upon certain areas or to limit development to a certain style of development that might be detrimental to their tax base. This exclusionary zoning can be seen in municipalities in which large single-family lot requirements prevent the construction of apartment buildings which might bring residents who are a drain on local resources. Municipalities may see such exclusionary zoning as a way of husbanding precious resources instead of preventing efficient development and are unwilling to modify the zoning code to accommodate more inclusive uses. Correspondingly, set-

[66] Porter (1998), p. 478.
[67] Ibid., p. 479.

backs, height-restrictions, and minimum parking standards may have similar justifications for their existence and may also prevent higher-density development.

In 2005, the Supreme Court's *Kelo v. New London*[68] decision upheld the use of eminent domain for the public use of "economic development." Public use" is, therefore, any use serving the public, in the interest of the public, or for the welfare of the public, as determined by city officials. With the *Kelo* decision, however, came a backlash of anti-eminent domain sensibility that quickly overpowered whatever gains might have been attained by political officials with the decision. In this political climate, governments may be unwilling to use economic development tools like eminent domain, TIF and TDD, to help assemble land and off-set land acquisition costs, infrastructure costs, and environmental clean-up, for fear of meeting strong opposition and losing their places in government.

Institutional Barriers

Successful TOD requires coordination and cooperation between many governments and entities, including the local municipalities, the transit agency, the county, other special district governments and the MPO. As Jeffery Newman explains, "if it is just left to local governments, the regional perspectives are lost."[69] The New Urbanists believe the only way to properly manage urban growth (and to, therefore, contain the externalities associated with sprawl) is through regional planning. "Regional planning manages urban growth at the scale of people's daily lives. Planning at the scale of a single town or city is rarely effective because working and shopping patterns routinely take most people

[68] Kelo v. City of New London, 545 U.S. 469 (2005)
[69] Newman, p. 4.

across municipal lines. What good is it for a New England village to outlaw Wal-Mart to save its Main Street when the suburb down the highway welcomes it with open arms?"[70] But this cross-jurisdictional cooperation is often difficult to achieve. Boarnet and Compin's research backs up this assumption. In their study of TOD in Southern California, they found that "no locality appeared fundamentally hostile toward rail transit or regional rail goals; rather each city had local goals that took precedence."[71] None of the municipalities studied were against regional rail transit goals; their individual goals took precedence over regional goals.

Transit agencies often have land and power that can serve as a powerful leverage in development opportunities. But transit agencies often see themselves as solely transit-managers and providers and, as a result, do not pursue joint development opportunities.

Fixation on Automobile-Oriented Design

Despite the intent of TOD to get people out of their cars and onto rail, most local government policies and regulations put a priority on accommodating automobiles. All developments, even those around transit stations, are expected to provide accommodation for automobiles first. Park-and-ride lots and garages are often given the prime locations next to stations with TOD's forced to locate on the periphery. Streets are expected to be wide enough to accommodate many cars comfortably and through-traffic is more important than pedestrian traffic.

Tenants (especially retailers) suffer from some of the same car-oriented tendencies. Retailers want enough parking near their locations to accommodate the "day

[70] Duany, et al. (2000), p. 139.
[71] Boarnet & Compin, p. 92.

after Thanksgiving" traffic. They want surface parking spaces that are in front of and have a full view of their store and the street, for both the convenience of their customers and as a way to advertise their popularity with other potential customers driving past. Commercial tenants want attached parking, but are often not as particular about the quantity of spaces and structured parking.

Summary: Overcoming Obstacles

The appeal of TOD as a development type largely derives from a belief in the impacts that TOD-style development can have within the region. Of the twelve benefits discussed in the literature, four (mobility, public safety, reduction in vehicle miles traveled, and an increase in social equity and quality of life) are relatively undisputedly direct benefits of TOD. The remaining eight are disputed in terms of their direct derivation from TOD and the quantity and quality of the impact the development has.

In addition, because no universal definition of TOD exists, the individual design elements that are purported to lead to the twelve benefits are left open to speculation and discussion. For the sake of this study, a definition consisting of a list of features and design elements that are generally accepted as necessary to achieve the benefits and goals of TOD was derived from the literature. This definition was used to evaluate the design of each development as a TOD, not to evaluate the performance and outcomes of the impact of that station area development in the twelve areas of benefit.

Working from the assumption that specific benefits derive from quality, station-area development and that quality station area development can be defined as "TOD," there are still a variety of private and public challenges and obstacles to overcome before TOD can be built. These challenges are broken into five areas: Locational Liabilities,

Market Cycles, Government Policies, Institutional Barriers and Fixation on Automobile-Centered Design.

Overcoming these obstacles to station-area development involves implementing policies at every level of planning around transit: planning the line, planning the stations, acquisition of land, coordinating the various governments, agencies and private developers involved, changing government policy to accommodate TOD, and even trying to change private retailers and customers' perceptions of parking needs. Policies that can be changed include not using existing railroad right-of-way; placing stations in areas with strong market potential or locational potential; aiding in the land acquisition or remediation process through the use of economic development tools; not placing stations in municipalities that have only single-use or exclusionary zoning codes; encouraging municipalities to create TOD or mixed-use zoning codes; coordination between agencies and institutions, including regional planning; transit agency involvement in development around stations and in the land acquisition process; and education and marketing showing the appeal of such design to residents, tenants, and customers.

The obstacles to TOD are challenging but not insurmountable; until these challenges are met, TOD is harder, if not impossible, to build and the benefits of station-area development will be narrow and limited.

5. METHODOLOGY

Overview of Research Approach

This study describes the planning processes behind developments near Cross County MetroLink stations. Several aspects of the processes were examined, including the design, character and financial structure of the developments, the policies and attitudes of East-West Gateway (the MPO), Metro (the transit agency), the City and County of St. Louis, and individual municipalities towards transit-neighboring development. Data for the study was collected from several sources, including interviews with stakeholders, current and historical newspaper accounts, and a review of company documents, municipal ordinances, codes and proposed codes. The data was analyzed using a combination of the case study method and the grounded theory approach, to derive an understanding of whether or not the developments around the Cross County MetroLink stations are TOD, and why they are or why they are not TOD.

Study Scope

The scope of the study includes all developments that directly abut stations on the Cross County MetroLink line in metropolitan St. Louis, Missouri that were approved or constructed after the light rail expansion plan was accepted in 2000. Some proposed (but not approved) projects are also examined. Because of its fragmentary governmental system (91 municipalities in the County plus the City of St. Louis) St. Louis provides an opportunity to examine the effect of municipal involvement and regional leadership in the construction of TOD. The Cross County Extension itself extends from the City of St.

Louis through six different municipalities in the County of St. Louis. The municipalities range in size from the City of St. Louis (almost 350,000 people in 2000) to Shrewsbury (6,644 people in 2000) and the means of residents range from Maplewood's $29,000 median household income to Clayton's $64,000. Table 4-1 shows some basic demographic information about each of the various municipalities served by the Cross County extension. The Cross County MetroLink line also provides an example of an entire leg of light rail that has been planned and developed in the last ten years, well after the 1993 publication of *The Next American Metropolis*. The theories and ideas behind TOD had been in discussion before the original plan was introduced in 1994.

Municipality	Population (2000)	Median HH Income (2000)
City of St. Louis	348,189	$29,156
University City	37,428	$40,902
Clayton	12,825	$64,184
Richmond Heights	9,602	$50,557
Brentwood	7,693	$60,643
Maplewood	9,228	$29,151
Shrewsbury	6,644	$40,896

Table 1: Basic demographics of municipalities along the Cross County MetroLink Extension (Source: US Census 2000)

Identification of Sources & Subjects & Data Collection

Data for the study was collected from newspapers, public and private documents, a series of in-depth, one-on-one, semi-structured interviews with developers, city managers, city planners, transit-agency employees and other identified stakeholders. The archives of the St. Louis Post-Dispatch, the St. Louis Business Journal, the West End Word, the Riverfront Times, and the St. Louis RCGA Commerce Magazine were consulted as a secondary source to identify subjects, stakeholders and establish basic timelines and historical data. Interview subjects were identified based on their individual roles within

their agency or organization. Agencies and organizations were identified from geographic data (e.g. cities with Cross County Extension stations), newspaper articles identifying developers and interested groups, windshield research of developments and proposed developments, from development data collected by Citizens for Modern Transit, and through the recommendations of other interview subjects. A list of agencies and businesses contacted as well as the tool used to guide interviews may be found in Appendix A. Interviews were set up primarily through email requests followed up with telephone requests. Email addresses and telephone information were obtained from public websites or from other interview subjects.

Interview Structure and Anonymity

Interviews lasted approximately one hour and were designed to determine the attitudes and opinions regarding TOD, station-area redevelopment plans and the role of their agency and other agencies in shaping the type of development that has occurred. Interviews took place at each individual's place of employment, by telephone, or in a public venue determined by the subject. Interviews were recorded by hand on paper, without recording devices. The interviewees were identified on the data only by their agency or business, not by their title or name. The tool used to guide interviews may be found in Appendix A.

Theoretical Definitions

For the purpose of this study, the following definitions will be used.

As discussed in the literature review, no clearly delineated definition of **Transit Oriented Development** (TOD) exists. For the purposes of this project, TOD is loosely defined as developments or projects with a very specific set of characteristics that include mixed-use, high-density, pedestrian-friendly, interconnected and station-focused designs. TOD is specifically defined as developments that have all (or a majority) of the components found in the chart below.

Design Features of TOD	
Pedestrian Access	**Mix of Uses**
Station within 10 minute walk	**Within Development**
Small blocks	Residential
Sidewalks through development	High Density (Multi-Family)
Sidewalks connect clearly to station	Medium Density (Attached Townhouses)
Crosswalks	Low Density (Single-Family)
Crosswalks w/ stop signs / signals	Market Rate
Traffic signals timed for pedestrians	Affordable
Pedestrian connections to low-density residential	Public
Pedestrian connections to adjacent developments	Commercial
Pedestrian connections not through parking lots	Retail
Pedestrian & Bicycle Friendly	Civic
Traffic calming on interior streets	Hotel
Bicycle racks at station	Entertainment
Bicycle lanes in streets	Other
Commercial and retail uses visible from station	**Within Station Area**
Drop off zones do not interfere with pedestrians	Residential
Public Space	High Density (Multi-Family)
Public space around station	Medium Density (Attached Townhouses)
Public space in general	Low Density (Single-Family)
Open space / parks	Market Rate
Open space / parks in central location	Affordable
Parking	Public
Less than minimum parking requirement	Commercial
Structured Parking	Retail
Surface parking hidden behind other uses	Civic
Structured parking shared first floor with other uses	Hotel
Shared parking	Entertainment
Higher-Density at Core / Around Station	Other

Table 2: Design features of TOD analyzed for this study

Transit-Adjacent Development (TAD) is development that, in design, is no different than other low density, car-oriented developments. TAD uses the same street

designs, parking requirements and density as typical suburban "sprawl" land uses, with large "big-box" stores in seas of parking lots, single-use structures, low-density housing on large lots and very few pedestrian-concessions like sidewalks, crosswalks and short blocks.

Analysis of Data / Theoretical Framework

The data collected from the interviews was analyzed using a combination of the case study method and the grounded theory approach. The Case Study Approach is a method of collecting and analyzing qualitative data in an explanatory analysis of one particular subject, person, group, event or project. As Robert Yin explains, "In general, case studies are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events and when the focus is on a contemporary phenomenon within some real-life context."[72] The Cross County extension study meets each of the requirements stated by Yin, including "why" questions about uncontrolled (in the scientific sense of the word) behavior that is occurring in the present time. Thus, a case-study approach was followed. However, the answers to the research questions are not immediately obvious, nor is it obvious that the right questions are being asked, and therefore, elements of the grounded theory approach were added, allowing the questions and assumptions to change as needed and adjusting the coding and relationships between phenomena with each new dataset.

[72] Yin, p. 1.

Grounded Theory is "a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon."[73] The point of using a grounded theory approach is not to generalize a series of events or actions but to derive a theory using specific methodological guidelines, including categorizing and coding.

The unit of analysis used was individual developments built between 1997 and 2007 (or in the late planning stages).

Table 3 illustrates the criteria that were analyzed and coded for in the study. As mentioned in the "obstacles" section in the literature review above, according to Porter, there are five obstacles to TOD development: locational liability, market conditions, non-supportive government policies, institutional barriers, and fixation on automobile-oriented design.[74] Each of these is addressed in at least one of the criteria in Table 3.

Design of Development	**Governmental Support**	**Other Factors**
Pedestrian Access	TOD-Supportive Zoning	Land Availability
Pedestrian & Bicycle Friendly	Financial Incentives Available	Current Land Use
Public Space	Land Acquisition	Market
Parking Reduction	RFQ / RFP	Visibility of Station
Higher-Density at Core	Station Design	
Mix of Uses	Station Location	

Table 3: Criteria for analyzing transit-neighboring developments.

[73] Strauss & Corbin, p. 24.
[74] Porter (1997), pp. 11-12.

6. FINDINGS

Summary of Findings

Table 4, which spreads over the next several pages, summarizes the findings of the study. Each development along the Cross County Extension was analyzed using the criteria established in the Methodology section to determine if it meets the criteria to be called TOD and what locational, governmental, market, institutional, and design barriers each

	Station-Area Development			
	#1-A: Metropolis Condominiums	#1-B: Proposed Development	#2: Administrative Building	#3: Proposed Mixed-Use Building
Government Factors:				
TOD-Supportive Zoning	Moderate	**Moderate**	Moderate	Strong
Financial Incentives Available	Moderate	**Moderate**	None	Yes
Land Acquisition Aid	Moderate	**Moderate**	None	Yes
RFQ / RFP	Yes	**Yes**	No	No
Gov't Aid in Station Design	No	**No**	Yes	Yes
Gov't Aid in Station Location	No	**No**	No	No
Station-Placement Factors:				
Station	Forest Park	**Forest Park**	Skinker	Big Bend
Land Availability	Somewhat	**Somewhat**	None	None
Current Land Use	Dense	**Dense**	Dense	Residential
Market	Moderate	**Moderate**	High	High
Visibility of Station	High	**High**	High	High
Design Features of Development				
Pedestrian Access	10	10	9	9
Pedestrian & Bicycle Friendly	3	3	3	3
Public Space	2	1	3	1
Parking	2	3	3	4
Higher-Density at Core / Around Station	0	1	1	1
Mix of Uses	9	13	8	6
Within Development	2	5	3	2
Within Station Area	7	8	5	4
Comments:	Walkable, "Old-Urbanism" Area, needs a core around station	Proposal for Mixed-Use TOD centered around station	Mixed-Use Building at corner with pre-existing mixed res. around	Mixed-Use Building at corner with pre-existing single res. around
Transit-Oriented Development?	No	Yes	Maybe - Small	Maybe - Small

Table 4: Summary Table of Findings (Part 1 of 4).

development may have encountered in its planning, design and implementation.

The major barriers that seem to be encountered by opportunities to build TOD along the Cross County Extension are land availability (#2, #3, #5 all have established, strong land use patterns that offer no room for growth), lack of connections to the station and other developments (#1-A, #6-A, and #6-B), no sharing of parking across developments or no reduction in parking (#6-B), have suburban, car-oriented designs (#7-C, #7-D, #9), or lack of any development planned around the station at all, possibly

	Station-Area Development			
	#4: Trianon	#5: County Garage	#6-A: The Boulevard	#6-B: The Fountains
Government Factors:				
TOD-Supportive Zoning	**Strong**	Strong	Strong	Strong
Financial Incentives Available	**No**	No	Yes	Yes
Land Acquisition Aid	**No**	No	Yes	Yes
RFQ / RFP	**No**	No	Yes	Yes
Gov't Aid in Station Design	**No**	No	No	No
Gov't Aid in Station Location	**No**	No	No	No
Station-Placement Factors:				
Station	**Forsyth**	Clayton	Richmond Heights	Richmond Heights
Land Availability	**Yes**	Limited	Somewhat	Somewhat
Current Land Use	**Mixed**	Mixed	Mixed	Mixed
Market	**High**	High	High	High
Visibility of Station	**High**	High	High	High
Design Features of Development				
Pedestrian Access	10	8	4	5
Pedestrian & Bicycle Friendly	4	1	2	1
Public Space	1	0	0	0
Parking	4	1	5	3
Higher-Density at Core / Around Station	1	0	0	0
Mix of Uses	10	4	12	10
Within Development	2	1	5	3
Within Station Area	8	3	7	7
Comments:	For-sale residential and retail building with shared parking and potential	Parking garage prevents further interaction with station and there is limited space for new development	As a "main street" design, the development is mixed-use, pedestrian friendly and has shared parking, but does not interact with the station at all	With the current design, it is pedestrian-friendly and mixed-use on the interior but does not offer connections or a break on parking
Transit-Oriented Development?	Yes	No	Maybe	Maybe

Table 5: Summary Table of Findings (Part 2 of 4).

because of lack of government support (#8) or lack of market demand (#9). The cities that have the most TOD-like developments occurring (University City, Clayton, Richmond Heights and Brentwood) all have strong TOD-supportive zoning, and all but Clayton will aid in acquisition and have economic development tools available. And, but for a recent legal case, Clayton would use the same economic development tools. The cities with conservative views on the use of economic development tools (the City of St. Louis, Maplewood, and Shrewsbury) have much less going on in the way of station-area

	Station-Area Development			
	#6-C: The "Tropicana" Development	#7-A: The Meridian	#7-B: Hanley Station	#7-C: Dierberg's Brentwood Pointe
Government Factors:				
TOD-Supportive Zoning	**Strong**	**Strong**	**Strong**	Strong
Financial Incentives Available	**Yea**	**Yes**	**Yes**	Yes
Land Acquisition Aid	**Yes**	**Yes**	**Yes**	Yes
RFQ / RFP	**Yes**	**No**	**No**	No
Gov't Aid in Station Design	**No**	**No**	**No**	No
Gov't Aid in Station Location	**No**	**No**	**No**	No
Station-Placement Factors:				
Station	Richmond Heights	**Brentwood**	**Brentwood**	Brentwood
Land Availability	**Somewhat**	**Somewhat**	**Somewhat**	Somewhat
Current Land Use	**Mixed**	**Retail**	**Retail**	Retail
Market	**High**	**High**	**High**	High
Visibility of Station	**High**	**Medium**	**Medium**	Medium
Design Features of Development				
Pedestrian Access	10	4	5	1
Pedestrian & Bicycle Friendly	4	3	3	1
Public Space	1	1	1	0
Parking	5	4	5	0
Higher-Density at Core / Around Station	1	1	1	0
Mix of Uses	11	6	7	4
Within Development	3	3	4	1
Within Station Area	8	3	3	3
Comments:	Has the potential to be a strong TOD in conjuction with other neighboring uses, like 6-A and 6-B.	Does not have any res. in its mix of uses, but has shared parking, pedestrian connections to the station - is retroactively TOD-esque	Designed to be a TOD, with mixed-uses, shared, structured parking and pedestrian paths, centered on an unbuilt station	Typical strip mall with few, inconvenient pedestrian connections and a fence dividing the mall from direct access by transit riders
Transit-Oriented Development?	Yes	Maybe	Yes - w/ station	No

Table 6: Summary Table of Findings (Part 3 of 4).

development. But these are also the cities with the fewest resources to spend on economic development. And, as evidenced by Brentwood's two-TOD, two-TAD developments, economic development tools do not necessarily lead to good design. Visibility of station does seem to correlate to development around the station, as every station with new TOD-like development is visible from a major traffic artery (the Brentwood Station was not visible until the Meridian Parking Garage was built). However, the type of existing, surrounding development does not seem to correlate with

	Station-Area Development			
	#7-D: The Brentwood Promenade	#8: No Development Planned	#9: Sunnen Business Park	#10: No Development Planned
Government Factors:				
TOD-Supportive Zoning	Strong	Moderate	Moderate	**Strong**
Financial Incentives Available	Yes	Yes	Yes	**Yes**
Land Acquisition Aid	Yes	No	No	**No**
RFQ / RFP	No	No	No	**Yes**
Gov't Aid in Station Design	No	No	No	**Yes**
Gov't Aid in Station Location	No	No	No	**No**
Station-Placement Factors:				
Land Availability	Somewhat	Somewhat	Somewhat	**Somewhat**
Current Land Use	Retail	Commercial	Commercial	**Residential**
Market	High	Medium	Medium	**Medium**
Visibility of Station	Medium	High	Low	**Medium**
Design Features of Development				
Pedestrian Access	1	0	4	0
Pedestrian & Bicycle Friendly	1	0	1	0
Public Space	0	0	0	0
Parking	0	0	0	0
Higher-Density at Core / Around Station	0	0	0	0
Mix of Uses	4	0	4	0
Within Development	1	0	1	0
Within Station Area	3	0	3	0
Comments:	Typical strip mall with few, inconvenient pedestrian connections to any surrounding areas	No development planned around station. Station currently has low-density, single-use developments around it.	Station is in office park that can be redesigned to accommodate higher-density development but none is planned	No development planned around station, but city and Metro are supportive and land currently used as a park-and-ride lot is available
Transit-Oriented Development?	No	No	No	Has Potential

Table 7: Summary Table of Findings (Part 4 of 4).

the new development – other than the fact that existing dense development has "hemmed in" #2 and #3.

The history behind the locational obstacles that derived from the planning process and the governmental support, institutional barriers (and agency coordination), and the design elements of each of the 10 station-areas along Cross County MetroLink and their corresponding developments are discussed in depth below.

Governmental Structure of Planning Problem

MetroLink and Cross County Planning Process

Historically, and on the Cross County Line, new MetroLink lines were planned by the Metropolitan Planning Organization (MPO), East-West Gateway, with some input from Metro and the Missouri Department of Transportation (MODOT) further on in the planning process. This structure came about because, according to Metro, previously, Bi-State was thought of more of a political entity than a transit agency. The county agrees with this summation, "Everything that Metro does is an extension of City, County and MPO. Metro is just a conduit of taxes and plans."[75] Because of Metro's perceived role, East-West Gateway assumed the planning role of MetroLink.[76] As a result of this structure, Metro and East-West Gateway didn't work together well.[77] In the case of Cross County, MODOT and Metro only had staff at East-West Gateway for the last stages of the planning program. And, "the Metro people at East-West Gateway weren't of a sufficient enough seniority" to affect change to the route or station placement.[78]

[75] Interview with St. Louis County
[76] Interview with Metro
[77] Ibid.
[78] Interview with Citizens for Modern Transit

When determining the route for the Cross County extension, the overarching policy was: how do we get the most amount of rail in the shortest amount of time for the least amount of money?[79] To achieve the first two conditions, "the most amount of rail in the shortest amount of time," a route had to be found that could be modified for rail quickly and easily but that brought rail to as many places in the county as possible. Using railroad right-of-way means stations do not interact with the street network, which is good for planning a quickly constructed, long train line but a poor condition for future development around the stations.

Achieving the final condition of spending the least amount of money meant finding diverse sources of funding, including local matches. Because Citizens for Modern Transit, municipalities, the county and some private entities like AmerenUE owned railroad right-of-way, the donation of the right-of-way land served as local matches. In addition, because the Cross County line was going through well-developed suburbs with strong market forces and a strong sense of NIMBYism, the line had to be built, essentially, "where no one would complain."[80] As East-West Gateway explained, "The real problem when you start looking at corridors is that there are so many factors [federal requirements, NIMBYism, land availability] that come into play that you can't get the most desirable line."[81] Citizens for Modern Transit explained it even more succinctly, "Compromises weaken routes."[82]

[79] Interview with Metro
[80] Interview with St. Louis County
[81] Interview with East-West Gateway
[82] Interview with Citizens for Modern Transit

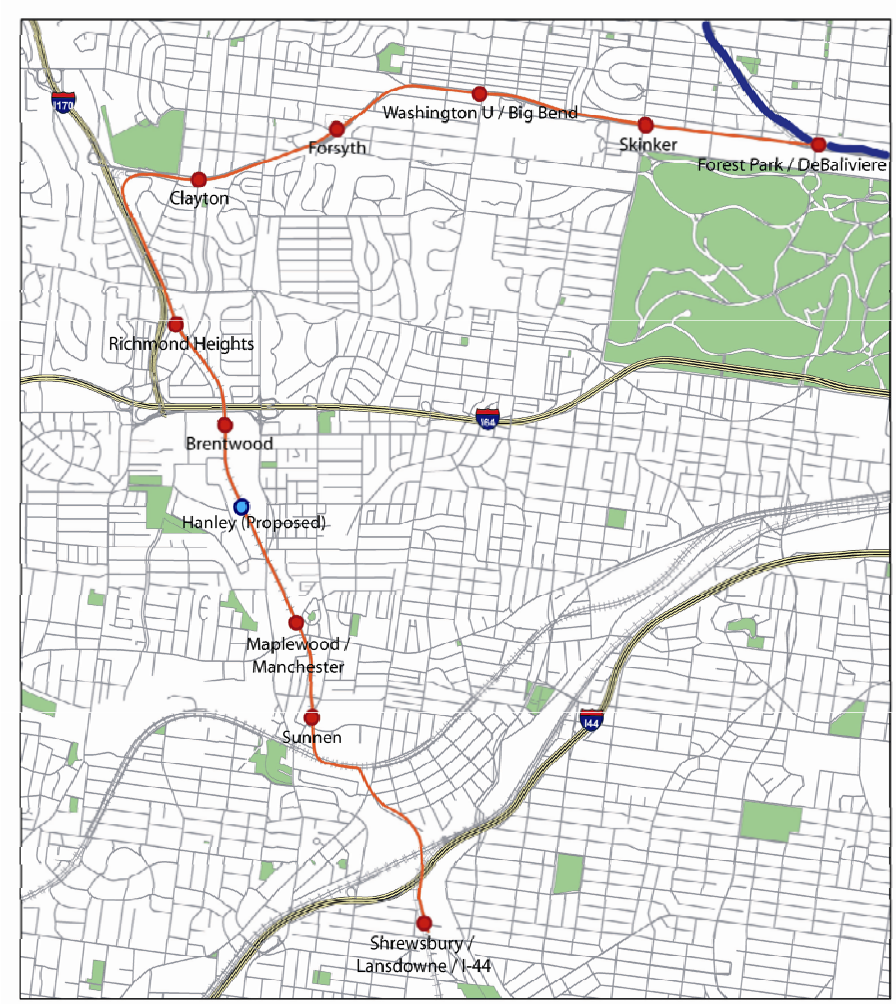

Figure 5: Cross County MetroLink Extension with Stations.

For the Cross County Line, the City of St. Louis and St. Louis County gave input early on and helped to plan where the line would go in their jurisdictions. The City of St. Louis did not want the line to cut through Forest Park, for instance. And County Officials examined the different possibilities before deciding that they would push for the current line. As a representative of the county explained, "Jim Baker and Buzz Westfall (the principal advisor to the county executive and the county executive) walked the line and said this is what we want."[83]

[83] Interview with St. Louis County

Municipalities, however, were only invited to comment after the plan was outlined and proposed and, at that point, could make only slight changes to the location of stations and the type of route that was going in. In Clayton, for instance, the city wanted a tunnel or an at-grade line going through the middle of the Central Business District. The planners and politicians considered this but between the cost of burying the line and the complaints of neighbors worried about the dangers of at-grade lines, this was dismissed and the route returned to Forest Park Parkway. In University City, after much consideration, the line was moved from an at-grade line to a semi-underground line that went under two major streets (Skinker and Big Bend). In Maplewood, the Sunnen station was moved to be adjacent to the Sunnen Business Park and in Shrewsbury, the line was moved from the center of the site to the eastern edge. But all of these municipalities did not have any control over where the route ran (because it ran on existing railroad right-of-way or on Forest Park Parkway) or whether or not they were going to get MetroLink (because they were already on the right-of-way, they were going to get the train).

In their role as the planning agency, East-West Gateway focused only on the planning and operations of the line and let the engineering follow after the route was picked.[84] That is to say, once the extension was planned, "East-West Gateway gave this plan to Metro who had to flesh the engineering out – and suddenly the price went up with the fleshing out."[85] Because the plan was now Metro's, Metro had to deal with correcting the official price tag with the public (which increased $100 million with further engineering – not including the disputed engineering that was the focus of the recent lawsuits), increasing the frustration between the two agencies and further limiting

[84] Interview with Metro
[85] Ibid.

Metro's ability to looking beyond the station areas for more opportunities for economic development, e.g. acquisition of land for future TOD sites.[86]

Development and Cross County MetroLink

Metro has been interested in Transit-Area development for at least ten years, but between the costs attached to expanding MetroLink and the agency's subordinate role to other agencies and other political agendas, they have been hard-pressed to push this as a priority.

Because of the financial constraints, "Metro viewed the project from the edges of right-of-way and no further.[87]

Politics also interfered. In 1997, Metro and Metro proponents tried to get the neighboring municipalities to think about station-area development, "but remember, the issue of the extension of I-170 South was going on at the same time and everyone was distracted and nervous about losing the line entirely [to NIMBY's]."[88]

Other entities with an interest in the line had more pressing concerns than future development as well. The County's priority was to get the rail extended to get more people to more jobs, not to adjacent development. "The rationale of the line was not planning," explains the county. "It was availability of route to improve transportation and job connections."[89]

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[86] Incidentally, according to both agencies, after the experience with the Cross County extension, Metro and East-West Gateway are working better together and engineering and planning are occurring in conjunction with and with input from both agencies.
[87] Interview with Citizens for Modern Transit
[88] Interview with Metro
[89] Interview with Metro

Finally, structurally, there was no one group, other than Citizens for Modern Transit, pushing the development agenda. "A weakness at Metro is that there is no one senior enough in charge of TOD."[90] As the county explains, there was no point in the planning when someone "sat down and said the reason we put the stop here was for potential development."[91]

As a result, planning and development around stations was left entirely to municipalities who may or may not see the regional importance of transit-area development for jobs and economic growth and who may or may not be willing or have the ability to help assemble land, give tax concessions, and support higher-density development. The next ten case studies discuss the role of these municipalities in the development around their various stations and describe what sort of development is occurring as a result.

[90] Interview with Citizens for Modern Transit
[91] Interview with St. Louis County

Case Study #1: Forest Park / DeBaliviere

City: City of St. Louis

About the Station Location

The Forest Park / DeBaliviere Station straddles four neighborhoods of the City of St. Louis: Skinker/DeBaliviere to the west and northwest, DeBaliviere Place and the Central West End to the east and northeast and Forest Park to the south. Most of the area was originally a portion of the 18th century Spanish land grant to St. Louis co-founder Augusta Chouteau's sister (Mary Louise Chouteau Papin). [92] In 1876, Forest Park was dedicated and the City of St. Louis established its western boundaries just west of Skinker.

The area began to be settled rapidly with the announcement of the 1904 World's Fair, which was held in Forest Park. Along the park and north of the park, large private residences and private subdivisions were established, including Cabanne Place, Westmoreland Place, Portland Place, Kingsbury Place, the Lindell Subdivision and Washington Terrace. After the fair, the apartments on Pershing and Waterman began to be built.

In 1907, the area west of DeBaliviere was platted and called "Washington Heights" and featured grand, single-family houses on the interior streets and two family houses, apartment buildings and mixed-use buildings on north-south arteries.

The neighborhood was, thus, planned to be mixed-use and mixed-income, with the single-family homes in private places belonging to the extremely wealthy, the single-

[92] The Skinker-DeBaliviere Neighborhood Website (http://stlouis.missouri.org/skinkerdebaliviere/ accessed 10/15/2007) is the source for most of this history.

family homes not in places belonging to the upper-middle class, the duplexes and two-family homes for the mid-to-lower middle class, and apartments for the working class. Corners of busy intersections were reserved for neighborhood commercial uses and streetcars running on the major streets connected the neighborhood to itself and the larger city.

The area suffered from the same neglect and disinvestment as many urban areas in the 1960s, 1970s and 1980s. But the quality of housing and building stock as well as the intricate planning that originally went into the area has begun to draw investment and residents back into the neighborhood, from the already stabilized University City to the west and the Central West End to the east.

The City of St. Louis seceded from the county in 1876 and has not increased its borders since that time. The population of St. Louis was just under 350,000 in 2000 and the median annual household income is the second-lowest of all the stations at just under $30,000.

The Forest Park / DeBaliviere station is a below-grade, open-air station, located just north of the intersection of DeBaliviere Avenue and Forest Park Parkway. The station serves as the intersection of the Cross County Line with the original MetroLink line. The station has a bus-turnaround accessed off of DeBaliviere and entrances and elevators on both the east and the west side of DeBaliviere.

Current / Pre-Existing Land Use around the Station

South of the station (and south of Forest Park Parkway), on both sides of DeBaliviere, two northern branches of Forest Park stretch from the Missouri Historical Society to the

Parkway, connecting the station immediately with the park. East and west, on the northern side of Lindell are the majestic, historic homes of Lindell. South of Lindell is the main body of Forest Park. Directly north of the station is a small, three-story mixed-use building (the "Archway Building") with first floor retail and second and third-floor apartments. Northeast of this is the neighborhood of DeBaliviere Place. Many of the large apartment buildings in this area have been converted into condominiums as part of the Metropolis development. The main through-street, Pershing, has several mixed-use buildings and small, retail spaces scattered between DeBaliviere and Union. West of the station area and turnaround is a 100-space surface parking lot owned by Metro. North of the lot is a strip shopping mall that is not fully leased and north of this, along both sides of DeBaliviere, are more commercial and retail buildings, including two banks. Northwest of this is the residential neighborhood of Skinker-DeBaliviere with multi-family buildings, two-family buildings and single-family residences.

Figure 6: The Archway Building at the corner of Pershing and DeBaliviere

The largest opportunity for new development around the station is along both sides of DeBaliviere heading north. The Metro parking lot is the most immediately available land. The strip mall, the Archway Building and restaurant space at the corner of Pershing and DeBaliviere would be harder to acquire but, as three large lots, could be combined with the parking lot to make a larger area for a new development. These parcels seemed to be underused, especially when compared to the residential portions of the neighborhood, which is undergoing a renaissance with restoration and condominium conversions. As a representative of McCormack Baron Salazar said, "The market is huge, the location is terrific, and it makes a lot of sense."[93]

Local Government Support / Regulations

The City of St. Louis is very conservative in their approach to TOD. While they feel that MetroLink gives the city an extra "marketing hook," they also feel that any financial and zoning support for development is best to do "when you have a reason to do it."[94] That is to say, until a developer requests special zoning and special incentives for a specific project, there is no need to create special zoning and incentives. Otherwise, you are regulating development before you have it. "The city is still in the mode of attracting development rather than regulating it."[95]

While the city is working on a new zoning code based on current land use that would include the basic legislation for overlay districts like TOD, they are not interested in creating TOD zones or TOD zoning and will most likely not use a TOD overlay until a developer requests it. And they would only approve it if a real need and value could be

[93] Interview with McCormack Baron Salazar
[94] Interview with the City of St. Louis
[95] Ibid.

demonstrated. Regarding parking, the city does not have any minimum parking requirements for developments. Since parking is expensive to build, they feel that the market moderates itself.

The city sees little potential in the land around the Cross County stations. "Everything is already developed or there is no need to develop around the stations," the representative from the city explained.[96] The city is more focused at this time in fostering retail development opportunities in the north side of the city with larger, regional "big-box" retail and not small TOD retail. The parking next to the DeBaliviere station, the strip mall and the Archway Building are seen as opportunities for development, but are "very small sites" according to the city.

The city regularly makes use of Transportation Development Districts (TDD) which can levy up to a 1% sales tax to go to public and transportation improvements and would consider using a TDD to support development around stations. The city will only use a TIF in true "but-for" circumstances. Developments must be cost-certified before and after construction to prove the gap and the need for TIF. The city prefers to use TIF in growing neighborhoods where there is need but less risk. In below-market neighborhoods, the city replaces TIF with Community Development Block Grant (CDBG) funds. The Forest Park / DeBaliviere station would most likely fall into the former category and would be eligible for applying for TIF.

Agency Coordination

Several developers have approached Metro with requests to issue Requests for Proposals for a development to go on the Park-and-Ride lot at the Forest-Park DeBaliviere station.

[96] Ibid.

Unfortunately, Metro has been focused in the lawsuit over the engineering portion of the Cross County extension and, as one developer explained, "They are interested and committed but distracted."[97] Metro agrees that it is ready to explore the economic development role of Metro, "now that the transit structure is fixed and functioning."[98] In addition, Citizens for Modern Transit and the Alderwoman for the city, Lyda Krewson, are both encouraging Metro to do something with the parking lot.[99] Finally, the Federal Government has clarified to Metro that no firm bid is necessary for the site since the plans would not involve federal transportation funds. Communication between agencies, thus, seems to be flowing and all agencies involved seem cooperative.

Development: Metropolis, RFP

Metropolis

Metropolis, a Mills Properties condominium-conversion project, does not consider itself a TOD, but it is worth briefly discussing. In 2003-2004, Mills Properties purchased nine of the buildings in DeBaliviere Place for $60 million. They plan on converting the 1050 apartments in the buildings into condominiums over the course of ten years. They are about halfway finished. The buildings are in the mixed-use neighborhood just northeast of the station and one building backs up directly to the station. Because of the historically urban and mixed-use nature of the neighborhood, sidewalks, crosswalks, and other pedestrian connections already link the buildings to the station. Interior streets have traffic-calming measures like bump-outs and on-street parking, parking is located behind the buildings in secure lots and every unit comes with only one parking space with an

[97] Interview with McCormack Baron Salazar
[98] Interview with Metro
[99] Interviews with CMT and McCormack Baron Salazar

option to purchase additional spots. There are three mixed-use buildings down Pershing that have retail and restaurant uses in the ground floor. The condominiums are market-rate, but many of the non-converted buildings still have affordable rental units. The developer has put in tennis courts and pools for the neighborhood and a small dog park in the center of the neighborhood.

The biggest problem facing residents who wish to use transit is not the connections within DeBaliviere Place but the connections to the station. Because the Archway Building, the strip mall and the parking lot do not create a sense of place, residents "don't feel safe there after dark. The buildings are empty and it feels like a no man's land between the station and DeBaliviere Place. If it [Pershing and DeBaliviere] were a busier intersection and a busier area, I would use the train more at night."[100]

Park-and-Ride Lot RFP

McCormack Baron Salazar is one of the developers interested in putting a mixed-use TOD on the park-and-ride lot. The development would include office space and universally-designed[101] residential apartments above retail focused on the mode-shifting traffic. The parking for the building and Metro's 100 spaces would be accommodated in a structure "wrapped" by the new building. The development could "perhaps include other buildings [Archway, the strip mall, Talayna's]" that would also be mixed-use and have either structured or hidden surface parking.[102]

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[100] Interview with Resident of DeBaliviere Place
[101] Universal Design is a type of building design that provides accessibility for people of all levels of ability in all areas of the building, so that all entrances and areas are wheel-chair accessible. In universal design, all housing units can be easily modified to accommodate most types of disabilities, including sight, movement and hearing disabilities.
[102] Interview with McCormack Baron Salazar

The proposed project would be financed by New Market Tax Credits, CDBG, Housing Trust Fund and perhaps a federal earmark for the universally-designed portion. In this way, the development is only counting on CDBG funds from the City of St. Louis and will not burden the tax coffers with TDD and TIF.

Figure 7: View of DeBaliviere park-and-ride lot with surrounding housing.

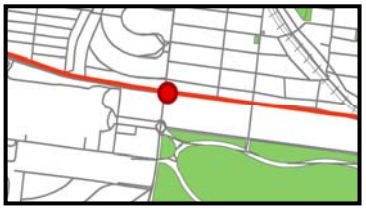
Metro's role in the development, according to McCormack Baron Salazar, could be limited to leasing the ground or could be more involved, depending on what Metro would want.

Current Status

The proposed McCormack Baron Salazar development, although small, brings many of the elements to the station and the neighborhood that are lacking, including a dense, active station area, one or several mixed-use buildings, a greater mix of incomes and tenants, and more commercial, day-time traffic to the area. It will be interesting to see, when Metro issues an RFP, how dense Metro is willing to let the development get and if the other, under-developed parcels could and would become a part of the larger effort.

Case Study #2: Washington University / Skinker

City: City of St. Louis



About the Station Location

The Washington University / Skinker Station is one of two underground stations on the Cross County Extension. It is located under the intersection of Skinker Boulevard and Forest Park Parkway, which is one of the busiest intersections in the central corridor. The intersection is on the edge of the City of St. Louis, with unincorporated St. Louis County to the southwest and University City to the northwest.

Northeast of the station is the eastern end of the Skinker-DeBaliviere neighborhood - the mixed-use and mixed-income neighborhood discussed in Case Study #1. Close to the station, the neighborhood becomes particularly dense, with many multi-family buildings lining Waterman and Pershing. Northwest of the station is the largest of the private places in St. Louis, Parkview Place. Made up of five horseshoe shaped streets, Parkview has 70 acres and over 250 lots. Because of the horseshoe design and gates facing Skinker, Parkview Place is particularly inward looking and effectively closed-off from the rest of the neighborhood. Southwest of the station is the main campus (the Danforth Campus) of Washington University in St. Louis, a private, research university founded in 1853. The campus is located in unincorporated St. Louis County. Southeast of the station is the western edge of Forest Park and Lindell.

Because of the anchors of Washington University and Parkview Place, the neighborhood immediately adjacent to the station did not suffer too much from urban disinvestment. The only area immediate affected were the multi-family buildings to the

northeast, but many of these are now owned by Washington University and used as student and faculty housing.

As stated above, the population of St. Louis was just under 350,000 in 2000 and the median annual household income is the second-lowest of all the municipalities at just under $30,000.

Current / Pre-Existing Land Use around the Station

Southeast of the station is an extension of Forest Park that is currently used by Washington University as an orchard and nursery. This is public land that cannot be developed. Southeast of this are the historical homes of Lindell and the main body of the park. The northeast corner of the station has a newly built mixed-use office and retail building owned by Washington University ("Administrative Building"). In anticipation of the transit line going in, Washington University built the Administration Building. Northeast of this is the Skinker-DeBaliviere neighborhood, with small, multi-family buildings, duplexes, and single family homes. The southwest corner is owned by Washington University who is planning to build more classrooms and office space on what is now currently a parking lot. Northwest of the station is the well-maintained, historic Parkview neighborhood discussed above.

As explained succinctly by the City of St. Louis, "There is no room for development [at the Skinker Station]."[103] Aside from opportunities to increase pedestrian connections to the station, there is little room left for improvements that might enhance the transit experience. The only development space available before the line went in was the lot that is now the Administration Building (discussed below).

[103] Interview with the City of St. Louis

Local Government Support / Regulations

As said above, the City of St. Louis is very conservative in their approach to TOD. They are willing to use financial incentives only in truly "but-for" situations and they will change zoning only in situations that have a definite need for zoning changes, not to guide development but to follow it. The cities of St. Louis and University City do not give financial incentives to the University. In fact, the University often helps out with infrastructure projects near the campus when asked by the cities or when the cities do not have the means to pay for something that the University would like done. Examples of this include helping to restructure the Lindell / Skinker intersection, paying University City for extra policing in University-owned areas, and helping the City of Clayton with irrigation down the median of Wydown Boulevard.

The City of St. Louis has not created a TOD zone in their zoning code and do not yet have the means for a TOD overlay district. The city does not have any minimum (or maximum) parking requirements for developments.

The city sees little potential in the land around the Cross County stations as development opportunities because they are already developed. Regarding Skinker in particular, "that one mixed-use building was it."[104]

Agency Coordination

Much of the agency coordination involving this station, the Big Bend Station and the Forsyth Station was instigated by Washington University and University City on behalf of the neighboring residents. It was the University's initiative to join the process; it was

[104] Ibid.

not at the invitation of East-West Gateway or Metro.[105] During the planning stages of the Cross County Line, Metro and East-West Gateway worked extensively with the University and the surrounding neighborhoods. At the request and insistence of the University and neighborhoods, backed by University City and County Executive Buzz Westfall, East-West Gateway agreed to put the stations at Skinker and Big Bend underground. Additional reconfigurations included strengthening already strong pedestrian connections with an entrance on the south side of Forest Park Parkway, building a higher buffer between the historic neighborhoods and the grade-level tracks and the proposal to build the Administration Building with a courtyard that incorporated the entrances to the station.

The University has also begun work with Citizens for Modern Transit on a car-sharing program to reduce parking needs (and car-dependency) and has participated in a bike-study with Great Rivers Greenway, the Metropolitan Park Organization.

Development: Washington University Administrative Building

The Washington University Administrative Building is on the northeastern corner of the intersection of Skinker Boulevard and Forest Park Parkway. It is above the Skinker / Washington University station, with the main entrance to the station integrated into the southern courtyard of the building. It is a three-story, mixed-use building with retail space on the first floor and offices on the next two floors. Parking is provided on a surface lot behind the building with a minimum amount of shared spaces between the uses. Because of its location at the corner of a busy intersection, the visibility of the building and the station are very strong, creating large market opportunities for retail.

[105] Interview with Washington University

Currently, a small gallery and a coffee house occupy the retail space with a restaurant in lease negotiations. The office space is used by Washington University. The building was designed to be fully incorporated with MetroLink.[106] The courtyard that serves as the outdoor dining space for the coffee house also serves as a public plaza for the station and has street furniture for riders who are transferring modes.

Figure 8: Public Plaza in front of Washington University Administration Building

Current Status

It is unfortunate that there is no more room for development around the station, because the University clearly has the right idea when it comes to station-area development. The Administrative Building incorporates the station in its design; it provides a mix of uses for transit riders, university students and the public at large; parking is minimal and hidden behind other, more activating uses; and the university has begun to explore other, non-physical solutions for reducing parking needs, including the new car-sharing

[106] Interview with Washington University

program, the provision of free Metro passes to students and faculty and staff, and with the help of Great Rivers Greenways, exploring the option of encouraging more bicycle use.

Case Study #3: University City / Big Bend

City: University City

About the Station Location

The second station adjacent to Washington University is the University City / Big Bend Station. This is also the second subterranean station on the Cross County Line. The station is under the intersection of Big Bend and Forest Park Parkway, at the northwestern corner of the Danforth Campus of Washington University. The station is located in and surrounded by University City (with the exception of the campus, which is in unincorporated St. Louis County).

Figure 9: St. Louis City and Surrounding Municipalities along Cross County Extension

The City of University City is one of the largest and most diverse suburbs in St. Louis. The city was founded in 1906 and is one of the earliest-incorporated inner-ring suburbs. The first mayor intended the city to be a model city in the "city beautiful" movement,

with ample parks (18 currently), wide parkways, and secluded residential subdivisions. The diversity of the city includes ethnic diversity (there is an almost 50/50 black to white ratio), income diversity, and religious diversity (there is a large orthodox Jewish population in the city served by many temples and shuls). Predominantly residential, University City has two main commercial corridors. One is the Loop, a dense retail and entertainment center located a half mile northeast of the station on Delmar Boulevard. The other commercial center is the much less dense stretch of Olive Boulevard (2 miles northwest of the station) whose strip malls now serve as the cultural and retail center of Asian population in St. Louis.

The area bordering the station has always been stable single-family residential neighborhood. Most of the houses were built between 1910 and 1930 and are on a mixture of lot sizes. The only non-single-family residential buildings in the area, aside from the University, are slightly-larger mixed-use buildings at intersections.

The station is underground, with elevators on the north and south sides of Forest Park Parkway and entrances to the station at all four corners. There are two small, bus-bump-outs on each side of Forest Park Parkway at the elevators. The intersection is very busy, with constant north-south automobile traffic on Big Bend and east-west traffic on Forest Park Parkway, which, while it provides an excellent market visibility for retail, is less friendly for pedestrians trying to cross the road.

Current / Pre-Existing Land Use around the Station

To the northeast of the station is Ames Place, a private subdivision of more modest houses than the typical St. Louis "place." The majority of the houses on Ames Place

were built on smaller lots by developers. [107] The houses are at least two and a half stories tall and of masonry all the way around. There are a few multi-family buildings within the neighborhood as well on University Drive. The neighborhood is very successful and has a strong association (see “agency coordination below" for details of the successful law suit between Metro and the neighborhood).

Immediately northwest of the station is a single-use retail building with a larger mixed-use building north of it (with residential uses above ground-floor retail) and parking lot and a small, one-story strip mall to the west of it. The retail building, the mixed-use building, the parking lot and the strip-mall are all owned by Washington University. Beyond these are more single-family homes and, slightly further to the northwest, the elegant neighborhood of University Hills and a neighborhood park, Flynn Park. Southeast of the station is the edge of Washington University’s Danforth Campus and southwest of the station is another low-density, large-lot neighborhood.

Because of the strength and success of the surrounding neighborhoods, the only site with a true potential for development is the Washington University-owned mixed-use lot on the northwest corner. The lot is not large, but the current use of space, including the parking lot and the two low-rise buildings, is very inefficient and the site could be redeveloped into a much more efficient, dense, mixed-use site.

Local Government Support / Regulations

University City has been pro-active in making sure that opportunities are available for development around transit where development is appropriate. The city has a TOD designation in its zoning code, as well as a “Redevelopment Area” code, both of which

[107] Hamilton

have the criteria of "adjacent to transit." If the development is in a Redevelopment Area or a TOD zone, the development is eligible to apply for city incentives, which include TDD, TIF, Chapter 353 Tax Abatement, and Community Improvement District (CID).

University City considers itself, first and foremost, to be a residential city. As such, the city would not demolish homes in a successful neighborhood to promote mixed-use or denser development.[108] Nor would the city acquire land to attract developers or use eminent domain. However, the city has issued an RFP for the area around Olive and I-170 in the northwest corner of the city – where a proposed "Westport" MetroLink extension will eventually go. In this RFP, the city requested the proposal include the design of the station, good pedestrian access points throughout the development, to the station, and to points outside the development, and bicycle access to all areas.[109]

Agency Coordination

The city and the University did not give input for the route of the MetroLink line through the city, but both had active roles in modifications once the line was selected (including burying the underground portions mentioned in the previous case study).

University City took on an advocate role for adjacent property owners in the development of the Cross County Line, insisting on a significant buffer between the rails and houses. In addition, the city acted as a mediator between Metro and neighboring Ames Place when there was an ownership dispute regarding right-of-way along Forest Park Parkway. This dispute led to a lawsuit that was eventually settled in favor of the

[108] Interview with the City of University City
[109] University City RFP

residents and Metro was forced to modify its plans. Since the line has opened, the city has not felt any reason to contact Metro.

University City would promote TOD-style development around the two existing stations but they feel that they have little control over the largest single landlord, Washington University. "The city isn't always brought to the table with Wash U. Development – but the university is trying to strengthen that relationship and tension is easing between the two," the representative from the city explained.[110] Recently, the University established an "ambassador" from the University to the city to improve communications and coordination. However, the city feels that this does not change the fact that Washington University owns the largest parcels adjacent to the stations and, thus, can control the type of development (if any) that might occur on those sites.[111]

Development: Washington University Mixed-Use Center

Washington University would like to redevelop the northwestern corner within the next five years. They plan to demolish the three current structures and, if possible, acquire some of the adjacent residential properties to accommodate the new development. The new mixed-use development would have retail on the ground floor (retaining, if possible, many of the current tenants) and student housing on the upper floors. The new structure would be four floors with underground parking for tenants, some surface parking for retail customers and public spaces that address the station entrances.[112]

[110] Interview with the City of University City
[111] Ibid.
[112] Interview with Washington University

The University will ask the city for TOD zoning and parking easements (especially since the residents are students with free Metro passes, it would make sense to ease the residential parking requirements), but no other financial support of the project.

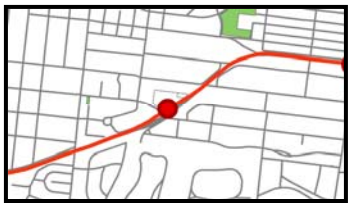
Current Status

The proposed Washington University development brings a much-needed efficiency to what space is available for improvement around the University City / Big Bend station. The current low-rise retail uses generate some activity to the corner but the new plan creates an activated station area and brings a sense of place to the corner.

Although the development is small and limited to one corner, it will help to improve pedestrian connections by eliminating the large, surface lot and emphasizing pedestrians in an intersection that is otherwise dominated by automobile traffic.

Case Study #4: Forsyth

***City*:** University City / Clayton



About the Station Location

The Forsyth Station is at the boundary between the City of Clayton and University City underneath where Forest Park Parkway crosses over Forsyth Boulevard. It is an open-air, below-ground station with no elevator access, but two long ramps that wrap around the circular station.

A brief overview of University City can be found above.

The City of Clayton has served as the county seat for St. Louis County since 1877. The city was incorporated in 1913 to avoid annexation by University City. The city grew exponentially in the teens and twenties (between 1920 and 1925, the population more than doubled and the real estate values tripled). In the 1950's, the city rezoned the area that became the Central Business District to accommodate larger commercial and retail businesses.

Clayton did not suffer from any flight or disinvestment in the 1960s-80s and is now the wealthiest municipality on the Cross County Line, with an average household income of $64,184. The Clayton school system is one of the best in the region and has the highest residential real estate prices per square foot in the region. Downtown Clayton is the second largest Central Business District outside of Downtown St. Louis and is a major employment hub for the region. Clayton has sidewalks and strong pedestrian access to and throughout all neighborhoods and the downtown area has the typical mix of a business district with retail and restaurant uses on first floors and commercial space (and now, increasingly, residential space) on upper stories.

Current / Pre-Existing Land Use around the Station

North of the station, to the east and the west is the former location of a Famous Barr department store. The store building itself is on the western edge of the site with a large surface parking lot and underground entrance to the building in the center of the site. On the eastern edge of the site is a more recently built gym. Washington University owns the entire site. The former department store has first floor retail uses, including an auction house, a restaurant and a wine shop, with a library annex, classrooms, conference rooms and offices on the floors above and in basement space under a portion of the parking lot. To the west of the main building is a parking garage connected by a skywalk and which also contains administrative offices, classrooms and retail on the first floor.

West of the station is a large, undeveloped lot that used to be the site of the Pevely Dairy, beyond which is Carondelet Plaza with the Ritz Carlton Hotel tower, the Plaza in Clayton residential tower, the Plaza in Clayton Office tower (with first floor retail uses), and the newly built nine-story Crescent in Clayton residential building, which also has first floor retail uses. The undeveloped lot is the site of the proposed Orchard Development, "Trianon."

South of the station are a gas station and a small multi-family building with first floor retail spaces. South of these is the single-family residential neighborhood of Northmoor. East of the station is a small, single-story retail center with a tire shop, a few restaurants, a bar and a derelict parking lot. Further east are a few multi-family buildings with first-floor retail and some newly-built 3 ½ story luxury condominium buildings. Beyond those, the neighborhood becomes completely residential with more multi-family and single-family homes.

Local Government Support / Regulations

The Washington University lot and the gym, everything south of the station, and the southeastern corner of the Trianon property are in University City. The Pevely Dairy lot, the department store building and garage, and the cluster of towers around Carondelet Plaza are in Clayton.

As stated before, University City does not feel it is necessary to try to guide Washington University's development and the corner of Trianon is so small that the city is willing to "go along with Clayton's decisions" regarding land use and zoning.[113] In addition, the city does not want to jeopardize current landowners and tenants in the small, one-story retail center, the gas station, and the mixed-use multi-family building southeast of the station with any redevelopment plans. However, this area is in a redevelopment zone;[114] if a developer has already acquired the land for a project, it can be redeveloped and seek financial incentives from the city.

The City of Clayton is very interested in the development opportunities around MetroLink stations. The city has begun to draft TOD guidelines to use as an overlay district and has already proposed that one of these districts be over the Pevely Dairy and Famous Barr sites (the other district would be north of the Clayton station).[115] In addition, the city is willing to use (and has used in the Trianon development) Planned Unit Development (PUD) zoning to give greater flexibility to land use within the zoning code.[116]

[113] Interview with University City
[114] University City, Update to Comprehensive Plan.
[115] City of Clayton TOD Land Use Outline
[116] Interview with the City of Clayton

Recently, the city lost a Chapter 353 Tax Abatement lawsuit based on the judgment that no blight exists in Clayton. As a result, the city has many fewer economic development tools to use to support development. The market in Clayton is strong, however, and development seems to be going forward in some areas without Chapter 353 and TIF. The bigger problem for the city is parking concessions. As the representative stated, "St. Louisans don't like parking garages." With the urban center of Clayton getting more and more dense, surface parking lots are starting to disappear and the city is worried about losing business to more sprawled areas with surface parking. Therefore, the city is hesitant to give parking concessions even in developments with structured parking. Despite this general unease, the city is trying to facilitate shared parking between the Washington University garage, the Ritz Carlton garage and Orchard Development's Trianon. According to city statutes, 3222 parking spaces are required to serve the Ritz, Washington University, the Crescent and the Plaza. But with smart-growth parking numbers, based on shared parking, light rail use and density, only 1500 are needed. Currently, there are an extra 1000 spaces that are underused on the east side of Clayton. These could be used as parking in Trianon. But, even so, the representative of the city said, "it is extremely hard in Clayton to justify smart growth parking to residents."[117]

Agency Coordination

According to the City of Clayton, Metro has not played a role in any of the developments around the Clayton stations.[118] This is seen as a problem. "Metro should have someone

[117] Interview with the City of Clayton
[118] Ibid.

knocking on my door constantly [to coordinate development projects]" explained the representative of the city. With the development that is going on in the strong and growing market of Clayton, "there needs to be a conversation about how to get Metro and these developments linked."

Development: Trianon, Washington University

Trianon: Orchard Development has been looking at the Pevely Dairy site since 2005 and finally proposed earlier this year a large, mixed-use development. The development would consist of one 25+ story tower of condominiums and two lower-rise buildings with a mix of programming that will probably include retail and more condominiums. The condominiums, while by no means inexpensive, will be priced competitively with older, less well-located Clayton condominiums, at around $400-$450 per square foot. The development will connect to the station at the eastern corner but will not ask for any design changes to the station.

Figure 10: Rendering of Trianon. © Orchard Development Group.

The development has not asked for TIF or tax abatement (and probably would not receive it after Clayton's recent court decisions), but Clayton has already approved the PUD overlay zone and has reduced the parking ratio for residential parking from 2:1 to 1.5:1.

The developer does not consider the Trianon project be TOD. While the proximity of the light rail added appeal, for the developer, it is not yet the "dynamic force in the community" that other cities have around light rail.[119] But it is "an important amenity – it does not replace the car, but it supplements the car."[120] The spokesperson for the development also explained that, in his opinion, "you can't have a TOD on an infill site – you need vast greenfields to do a true TOD… all in-fill will be Transit-Adjacent unless you consider all the other uses around the site, not just the development."[121]

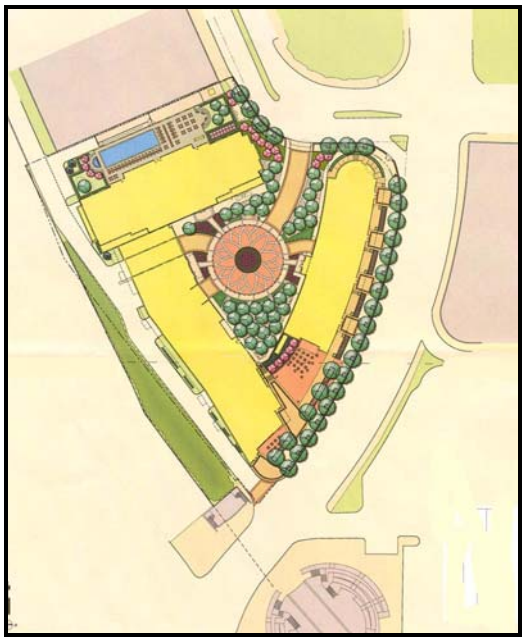


Figure 11: Trianon Site Plan, showing station in bottom center. © Orchard Development Group.

[119] Interview with Orchard Development
[120] Ibid.
[121] Ibid.

Washington University: Washington University, while they appreciate the opportunity for development offered by their site, does not have any plans to develop the parking lot.

Current Status

Currently, the Forsyth Station is the least-used station on the Cross County Line and yet it has the most potential for development. The Trianon development will be much-needed density and activity to the station area and will add significant pedestrian connections between the high-density development at Carondelet Plaza and the station, adding further to the connectivity of the area and enlivening the walk to the station. If Washington University continues to follow the pattern they have established at the Big Bend Station and the Skinker Station and develops the Famous Barr parking lot into mixed-use buildings that address the street, the area will be even further enhanced. Once these two large lots are development, the market might be strong enough that the weakest link in the station area (the low-rise retail to the south and to the east) will also be appealing for redevelopment, creating a large ring of high-density, mixed-use, pedestrian-friendly around the station that fades out into the traditional, lower-density neighborhoods of University City and Clayton.

Case Study #5: Clayton

City: Clayton

About the Station Location

The Clayton Station is a raised, above-grade station in the center of Forest Park Parkway at Central Avenue. It is located three blocks directly south of the County complex and the Clayton Central Business district. A brief overview of the history of City of Clayton and the Central Business District can be found above.

Current / Pre-Existing Land Use around the Station

South of the station and Forest Park Parkway is Meramec Elementary school and the Davis Place low-density residential neighborhood. There are no pedestrian or automobile connections between Davis Place, Meramec and the station, so the Parkway effectively serves as a wall dividing the area south of the station from the station area. Directly north of the station is a Metro transfer center with bus slots above which is the County-owned, fee-charging, 800-space park-and-ride garage. North of the garage are several, lower-rise buildings, most of which are owned by government entities. In the block northwest of the station is a small tower office building with a large surface parking lot dividing it from the station. West of the small tower and lot are several condominium buildings facing Brentwood Boulevard and Shaw Park, Clayton's largest city park. In the block northeast of the station are several more office buildings, two low-rise with interior surface lots and two towers with structured parking.

The most obvious area for development around the station has already been developed: the 800-space garage and bus transfer station directly faces and connects to

the station. The next area that would be a possibility for development is the large, surface parking lot to the northwest of the station. However, due to the placement of the station and the bus and parking complex, the opportunities for a development here to interact with the station to create a sense of place are severely limited.

Local Government Support / Regulations

As stated above, the City of Clayton is very interested in the development opportunities around MetroLink stations. Part of this, according to Citizens for Modern Transit, has to do with having the right people there at the right time. The Director of Public Works, Paul Wojciechowski, is a planner who "understand the benefits of TOD and, as a result, Clayton is ahead."[122] The city has proposed a second TOD overlay district over three blocks north, northeast and northwest of the station (the blocks discussed above).[123] In addition, the city is willing to use Planned Unit Development (PUD) zoning to give greater flexibility to land use within the zoning code.[124]

As explained above, due to the recent outcome of a lawsuit over the use of Chapter 353 tax abatement and the definition of blight, the city is very limited in its opportunities to use economic development tools, including eminent domain, TIF and tax abatement.

Agency Coordination

From the beginning of the planning process, the City of Clayton was disappointed with the route along Forest Park Parkway. "We don't feel like the decision they made is best

[122] Interview with Citizens for Modern Transit
[123] City of Clayton TOD Land Use Outline
[124] Interview with the City of Clayton

for MetroLink," said then Clayton Mayor Francis Kenney III. "We feel the basis of the decision was political in nature."[125] Clayton supported building a tunnel or having an at-grade route through the center of the Central Business District.[126] Instead the route travels at the southern edge of the Business District, in the center of a parkway, isolated from the businesses and liveliness of the central area by a 10-minute walk. The station is located on a raised platform in the center of Forest Park Parkway, creating one of the most exposed and isolated stations on the line (Maplewood and Shrewsbury are the only other trestle stations).

An additional disappointment to the city came in the design of the adjacent garage. The County owned the land directly adjacent to the proposed station and offered to build a park-and-ride facility for Metro which would also accommodate the new Metro Bus-Transfer station. The County and Metro did not consult Clayton or look for other opportunities or options – including using land owned by Clayton further north on the block.[127] The result, which opened in July of 2004, is a large, empty bus-transfer lot on the ground-level with a garage above. The entire complex takes up about a third of the city block. When passengers exit the train, they are immediately in a car- and bus-oriented environment. They have to take a bridge over the fast-moving traffic on the Parkway and are immediately dumped in the transfer station, with buses and cars given the priority over pedestrians. As explained by a representative of Clayton, the way the complex was built limits future opportunities around the Clayton Station because there is no way to adjust or modify the design to accommodate more dynamic uses.[128] If Metro

[125] As quoted in the St. Louis Post Dispatch, July 1, 1999.
[126] St. Louis Post Dispatch, July 1, 1999.
[127] Interview with the City of Clayton
[128] Ibid.

and the County had coordinated with Clayton, the garage and bus transfer station could have been moved to City-owned property further north, still within a minute or so walking distance, freeing up the property immediately adjacent to the station for more dynamic, mixed-use, place-making development.

Figure 12: The view of the County Garage from the Clayton MetroLink platform.

Planned Development:

Other than the bus transfer and park-and-ride complex, there are no other developments or plans for more development around the Clayton station.

Current Status:

Because the County garage and bus-transfer station have effectively cut-off the station from any opportunities for creating a dynamic station area, it is hard to say if there is any opportunity for TOD-style development around the Clayton station. The parking lot to the northwest could be turned into a more-dense, mixed-use project but, because of the placement of the station and the design of the transfer station and garage, the lot has no opportunity to interact with the station and create a feeling of place.

Case Study #6: Richmond Heights

City: Richmond Heights

About the Station Location

The area that is now Richmond Heights was originally settled in 1887 by families on large lots and farms. In 1900, the first residential neighborhoods were built and the community was marketed as a residential suburb. The city was incorporated in 1912-1913. The University Club tower, a 23 story office building on Brentwood Boulevard, was built in 1975, bringing commercial space into Richmond Heights. Across the street, in 1984, one of the few shopping centers in Richmond Heights and many neighboring houses were demolished to build the regional shopping mall, the St. Louis Galleria. The Galleria expanded southward in 1991, removing the remainder of the residential neighborhood. Further development has sprouted around these two sites, including two more office buildings accessed off Clayton Road (just east and north of the MetroLink station) and several smaller sites were developed in the area.

Richmond Heights is the third wealthiest city in our study, with an average household income of over $50,000. This, combined with its proximity to wealthier suburbs (Richmond Heights shares borders with Clayton, Brentwood and Ladue – the wealthiest suburb in St. Louis), makes Richmond Heights very appealing to retailers and developers. Not only is there a strong marketing within the city, but the city can draw shoppers, workers, and residents from neighboring markets.

The Richmond Heights station is an at-grade station located where Galleria Parkway (an east-west street that begins at Brentwood Boulevard) terminates at McMorrow Avenue. The station is accessible only directly from the western side (at the

end of Galleria Parkway). Directly in front of the station is a passenger drop-off circle which takes up what open space is between the station and McMorrow Avenue.

Current / Pre-Existing Land Use around the Station

Directly to the west of the station is Highway I-170, under which Galleria Parkway runs. I-170 effectively divides the land around the station in half. West of I-170, north of Galleria Parkway is the University Club Tower, a 23-story office building. Surrounding the tower are two parking garages and several surface lots. West and northwest of the tower area, along Brentwood Boulevard, are several small, one-story, single-use retail stores. This is the area of the proposed "Fountains" project.

West of I-170 and south of Galleria Parkway is "The Boulevard" development described in more detail below. On the other side of Brentwood Boulevard is the Galleria Mall, a regional shopping mall surrounded with ample surface lots.

East of I-170 and south of the station is a small residential neighborhood and an extended stay hotel. North of the station and east of I-170 are two lower-rise office buildings, a large bowling alley and a small, free-standing restaurant that is not currently in use. All parking for these four buildings is provided by surface lots extending between them. None of these four parcels are accessible from the station. These four parcels are the site of the proposed "Tropicana" development (referred to by the name of the bowling alley currently occupying the space).

In addition to the underused parcels along Brentwood Boulevard, there are many surface lots surrounding the MetroLink station in Richmond Heights that are appealing for redevelopment – and this seems to have been recognized by several developers in St.

Louis. The lots around the University Club Tower as well as the parcels to the north of the lots are part of the "Fountain" project. The lots and parcels to the south of "The Boulevard" make up Phase II of that project. The bowling alley and surrounding lots make up the Tropicana site. With the three new developments, opportunities for further development are limited. Hopefully, the three developments can focus on and interact with the station to create the best possible solution for the City of Richmond Heights, MetroLink riders and other visitors and customers to these projects.

Local Government Support / Regulations

The City of Richmond Heights recognized the potential for the sites around Galleria Parkway even before the line was finalized. I-170 and Brentwood Boulevard are major north-south arteries in the county and the sites between both are highly visible and appealing. The east side of Brentwood has been in planning long before Metro proposed the Cross County Extension. The city issued the first RFP for the area in the early '90s.[129] Two more RFP's followed over the next fifteen years.

The RFP's included the possibility of using eminent domain, Chapter 353, TIF, and the city's relatively new "Planned Mixed-Use Development" zoning designation. All of these are available for use by approved developments in Richmond Heights, especially in the area around the station.

Agency Coordination

Metro discussed the station location with the city (originally, the station was intended to be on Brentwood Boulevard at Clayton Road) and how it would be laid out on the site.

[129] Interview with the City of Richmond Heights

The city did not make many changes to the Metro proposal but did act as a liaison between Metro and the residents of the neighborhood south and southeast of the station to ease concerns. There was no coordination between Metro and the city and developers regarding connections down Galleria Parkway when the station was originally built. However, with the potential for the Tropicana development, Metro has been willing to discuss opening the station up from the eastern side and the city is interested in extending Galleria Parkway east into the new site, showing some retro-active coordination.

Developments: The Boulevard, The Fountains, Tropicana

Figure 13: The Boulevard by Pace Properties. © Pace Properties

<u>The Boulevard, Phase I and Phase II:</u> As explained above, the City of Richmond Heights issued several RFP's for the redevelopment of the "Francis Place Redevelopment Area." The third RFP garnered only one response, from Pace Properties, who proposed a mixed-use, "main street" project on the site. Originally, Pace had proposed a traditional strip mall with lower-rated tenants like Old Navy and Walgreens. But, after talking to developers who had done main street developments, Pace realized that they could have a

much denser, more interesting, more dynamic project with retailers unique to the St. Louis region. In addition, the TIF worked better on a denser site and the cost of the land mandated denser development. And so the $230 million "The Boulevard" project was conceived.

Phase I of the project, on the northern portion of the site, has been completed and includes one large anchor retailer (Crate and Barrel), several smaller retailers, two large restaurants, a café, office space, and rental residential units. The residential units are in three stories above a one-story retail section. The office space and additional retail space are on the second floor above ground-floor retail. The entire development is configured around an interior "main street" with two narrow lanes of traffic with some on-street parking and traffic-calming paving to emphasize the pedestrian nature of the street. The majority of the remaining parking is provided by a garage located behind the four-story retail/residential building.

Figure 14: The Boulevard Site Plan. © Pace Properties.

Phase II of the project, which should break ground in late 2007, continues the main street further south and adds to the mix another twp anchor tenants, more office and retail space, a boutique hotel and a second garage. The proposal also includes a skywalk connecting the hotel to the garage.

The development was built with a parking ratio of 1 1/3 to 1 for the residential units because this was Pace's first foray into residential development, but other than that, they used the Urban Land Institutes Guidelines for smart parking shared between uses.

Pace used all the economic development tools Richmond Heights offered in order to achieve the highest and best use of the property. The site is located in an "Economic Development Zone," so all the possible tools are on the table. The Boulevard used TIF, TDD, and the "Planned Mixed-Use Development" zoning designation, as well as the smart parking ratios.

According to Pace, the "station was not a reason to do the project," but instead merely added value to an already valuable project.[130] They were informally in contact with Metro throughout construction of the extension and Phase I of the Boulevard. When the station location was finalized, Pace considered making changes to their design to address the station but ultimately decided to keep their original design. With a portion of their tax concessions, Pace did build the planted medians down Brentwood Boulevard for aesthetic reasons, to serve as a traffic calming measure and to act as a resting place for pedestrians crossing to the Galleria. And they "would like something done on Galleria Parkway," to help with the pedestrians coming from the station. Finally, according to the City of Richmond Heights, "The residential component was added because of Metro."[131]

[130] Interview with Pace Properties
[131] Interview with the City of Richmond Heights

Because of the train, it made sense to try to have some high-density housing. The housing is especially important because it is "in the Clayton School District" which has very few affordable rental apartments.[132]

Pace did not intend to build a TOD but were aiming instead for a main street project. And the development is not as well-connected to the train station as a TOD would be – the pedestrian connections between the project and the station are weak, undefined and uninteresting – but Pace has managed to create a walkable, diverse environment on a relatively narrow piece of land sandwiched between two major traffic corridors.

Figure 15: A view of the Fountains from Brentwood Boulevard. ©Equis Hospitality Management

The Fountains: Mullenix Companies has proposed a $150 million two-hotel and retail project on the southeast corner of Brentwood Boulevard and Clayton Road. The proposal includes a Westin Hotel and an extended stay hotel on the corner with 30,000 square feet of retail further in on the site, near the University Club Tower. The plan also includes

[132] Ibid.

more than 600 parking spaces in several garages around the site. These spaces will serve the University Club Tower, the two hotels and the retail space.

Figure 16: Another view of the Fountains hotels and retail along Brentwood Boulevard. © Equis Hospitality Management

The biggest drawbacks to the plan are the low-rise retail fronting the site and that the connections to other developments (The Boulevard, the Tropicana site) have been effectively cut-off by a large parking garage on the southeastern edge of the site. At the same time, this design cuts off access from the station to the site (probably helping to prompt the need for the 600+ garage spaces). The developer has promised a path "through the garage" between Galleria Parkway and the main street of the Fountains but this does not constitute a real pedestrian connection. Even their neighboring competitor, Pace Properties, "would have liked [Mullenix] to have more pedestrian-based connections between the sites."[133] Despite its superficial similarities to The Boulevard in terms of massing and materials, the Fountains plan does not use very many of the same

[133] Interview with Pace Properties

New Urbanist principles to create a sense of place and instead is a car-oriented, suburban development.

Tropicana: The Tropicana site consists of the entire four-building parcel to the east of the station. The site has been under the control of a single owner for many years and, recently, a new owner has expressed in redeveloping the site into something more dense and mixed-use.[134] The city is very excited at the possibilities of the new development. "Our first real attempt at TOD would be here." While the design of the project is not finalized, the project would most likely include an office tower with a retail first floor, structured parking, improved connections between the station and the buildings in the site and maybe additional, mixed-use, lower-rise (3-7 story) buildings. The design would take into account the MetroLink station that, when the project is finished, would be at the center of the western side. And the city would want to incorporate the station into the site: "Definitely, we would want a building that addresses the MetroLink station."[135]

Current Status

While the new "Tropicana" development would be limited to only two uses (retail and office) and the parking would only be shared between the two uses, the owner explained that, the combination of this site with the other surrounding developments could create an example of multi-project in-fill TOD. Office space would be supplied by the Tropicana project, the University Club Tower and the office space in The Boulevard. Retail is provided by The Boulevard, the ground floor of Tropicana and a few parcels in

[134] Interview with "Tropicana" site owner
[135] Interview with the City of Richmond Heights

the Fountains. The Fountains have two different types of hotel uses and The Boulevard provides high-density rental housing. Lower density housing exists in the neighborhoods to the south and southeast of the station and across Clayton Road from the Tropicana development. There is even elderly housing in the Sunrise Assisted Living Home to the northeast that would be connected to the station through the Tropicana site.

Figure 17: A view of Tropicana Bowling Alley from the Richmond Heights MetroLink station

The potential created by the surface lots and underused parcels around the Richmond Heights station combined with the high market potential of the area and favorable government policies has created an enormous opportunity for transit-oriented development. However, there are a few critical issues that need to be addressed in the area and in the developments before the type of development can be considered Transit-Oriented instead of Transit-Adjacent.

Firstly, the city should more fully address the true "smart" parking needs of developments like the Fountains, the University Club Tower and the Tropicana project. The opportunity for sharing parking needs across developments is high and can increase the efficiency of the space greatly. Secondly, the city should consider the space around the station as essential to getting transit riders off the train and into the new developments. What now looks like underused land in the turnaround and drop-off space, should be converted, hopefully integrating into the Tropicana project, into public space that encourages transit riders to get off and amble down Galleria Parkway to the more exciting destinations on the other side of I-170.

Most critically, pedestrian needs and connections must be addressed. Within the Pace Development (The Boulevard), the streets are at a pedestrian scale and pedestrian needs like street furniture, crosswalks and traffic-calming measures are used. Presumably, similar design elements will be used in the Fountains and the Tropicana developments. But these design elements cease while walking between the developments. Galleria Parkway is a very fast (considering its short length), 4-lane road with no north-south crosswalks at all. In the plans now, the only pedestrian connection from the station into the Fountains is through a parking garage. The sidewalks leading to and from the station degrade the further you walk from the station. And, once you cross Brentwood Boulevard into the Galleria parking lot, there are no paths for pedestrians to get to the front doors of the mall.

Case Study #7: Brentwood

City: Brentwood

About the Station Location

Brentwood was first settled in 1804.[136] In 1890, the first streetcar reached the area, making the area accessible to residents of St. Louis City and the farms in the area started to subdivide. Under threat of annexation by Maplewood, the city incorporated as Brentwood in 1919.

In 1907, Howard Place was established as a neighborhood for African-Americans who worked at the nearby brick factories, mostly General Refractories. In 1923, Howard Place became a part of the larger Evans Place. The neighborhood was a completely self-sustaining community with its own churches, market and school. The neighborhood started to decline after the brick factory was destroyed in the 1960s. In 1997, the city used eminent domain to help a developer gain control of the neighborhood, which was replaced by the Promenade shopping development.

Today, Brentwood is primary residential. However, in the northeast corner of the city is the Hanley Industrial Park, a light industrial area, and four main commercial corridors (Hanley Road, Eager Road, Manchester Road and Brentwood Blvd) encircle the residential center of the city. The commercial corridors have mainly low-rise, single-use or strip mall retail and a few lower-rise (3-6 story) office buildings. With the elimination of the Evans Place neighborhood, the average household income increased in Brentwood so that it is now the 2nd wealthiest municipality on the Cross County line. It has the

[136] History of Brentwood from Brentwood Historical Society

second smallest population (just under 8,000 people) and is the only municipality on the Cross County line that does not share a border with the City of St. Louis.

The Eager Road station is an at-grade station located just south of Eager Road and Highway I-64/40, between the Brentwood Pointe development and the Meridian development. There was no existing right-of-way to access the station before it was built except through the Meridian and the Pointe's private streets. Access from the station to the east (the Pointe) is obstructed by a ¼ long fence dividing the private parking lot of the strip mall from the station. Access to the west of the station is directly from the Meridian's main road.

Current / Pre-Existing Land Use around the Station

The station is bordered on the north by Eager Road and, directly beyond Eager Road, I-64/40. I-64/40 acts as a solid barrier between the station and any land to the north of the station. To the east of the station is the Meridian Development, a mixed-use project built by DCM management. East of the Meridian is Hanley Road. Across Hanley is the site of the proposed Hadley Heights development in Richmond Heights. Southeast of the station is a large (900 space), mixed-tenant garage shared between the Meridian and Metro. The ground floor of the garage has retail space. South of the garage (and Phase II of Meridian) is a Home Depot store with a large surface parking lot on Hanley Road. South of this (on the eastern side of the Cross County line) is the Hanley Station development.

To the west of the station the former site of the Evans Place neighborhood. Immediately west is the Brentwood Pointe shopping center development, with a grocery

store as the anchor and two out-parcel buildings. West of the Pointe is the Promenade shopping center, another low-rise center with a Target as the anchor store and surface parking lots. South of the Pointe and the Promenade is Hanley Road Industrial Park, a light-industrial park established in the 1950s.

Like Richmond Heights, the area around the station is already recently developed or in planning. Opportunities for further development are limited. The City of Brentwood and the current developers, however, will face a challenge in connecting the station with the developments, especially since many of the developments were built without regard to the station and are highly car-oriented.

Local Government Support / Regulations

Brentwood is prepared to support mixed-use development within the city. They have a Planned Development District zone within their zoning code that acts like a PUD and allows for multiple uses on a single site. In addition, the city has an Urban Development Zone designation that allows for higher densities and some sharing of parking.

The city has used TDD, TIF (on property and sales tax) and eminent domain in the past to support development and would consider all economic development tools to support future development.

The city's biggest concern with Metro right now is how to improve pedestrian access to the station and between development centers (the Promenade, Brentwood Pointe, Meridian and Hanley Station) and from residential areas to the station. This concentration suggests that Brentwood understands the inaccessibility most of the areas have to pedestrians and is hoping to retroactively improve the connectivity of the sites.

Agency Coordination

Brentwood, Clayton, Richmond Heights and Maplewood all received a joint Trail Net grant to improve trail and pedestrian connections in their cities. Brentwood is considering using their share of the funding to get better pedestrian access between the neighborhoods to the south and west and the developments in the north and east (and the station).[137]

The city has had limited contact with Metro throughout the Cross County process, although the city is aware of communications between developers and Metro, especially MLP's desire to get a station next to Hanley Station and DCM's difficulties with structuring the financing of the shared garage. Now that the station is built, the city, "Doesn't see any need for contacting Metro."

Developments: The Meridian, Hanley Station, Dierberg's Brentwood Pointe, and the Promenade

The Meridian: The Meridian development is a $130 million DCM Management mixed-use project with retail and commercial space. The developers knew that they want to do a mixed-use project but "didn't want to do everything in terms of uses – just wanted to do what [they] thought would work."[138] And so, they limited themselves to retail, commercial and a shared Metro parking garage.

Phase I of the development consists of 3 buildings with 875,000 square feet of retail on the ground floor with another 875,000 square feet of commercial on the second

[137] Interview with the City of Brentwood.
[138] Interview with DCM Management

floors. Behind these is the 900-space Metro-shared garage, with a small amount of retail on the ground floor (just under 9000 square feet). Skywalks connect office tenants to garages. Phase II, which is under construction, has an office tower with retail on the ground floor, another low-rise office building with retail on the ground floor and a second garage with ground floor retail. Parking for the "major" retail (Phase I) is provided on surface lots facing the main entrance of Eager Road. An additional surface lot on Hanley Road will serve the restaurant space on the ground floor of the office tower. The garage parking is mostly intended for office workers and Metro transit riders who are using the station. The retail on the interior street (in the ground floor of the garages) is intended to appeal to office workers and transit riders, coffee shops, dry cleaners, sandwich shops, and is not large enough to be destination retail.

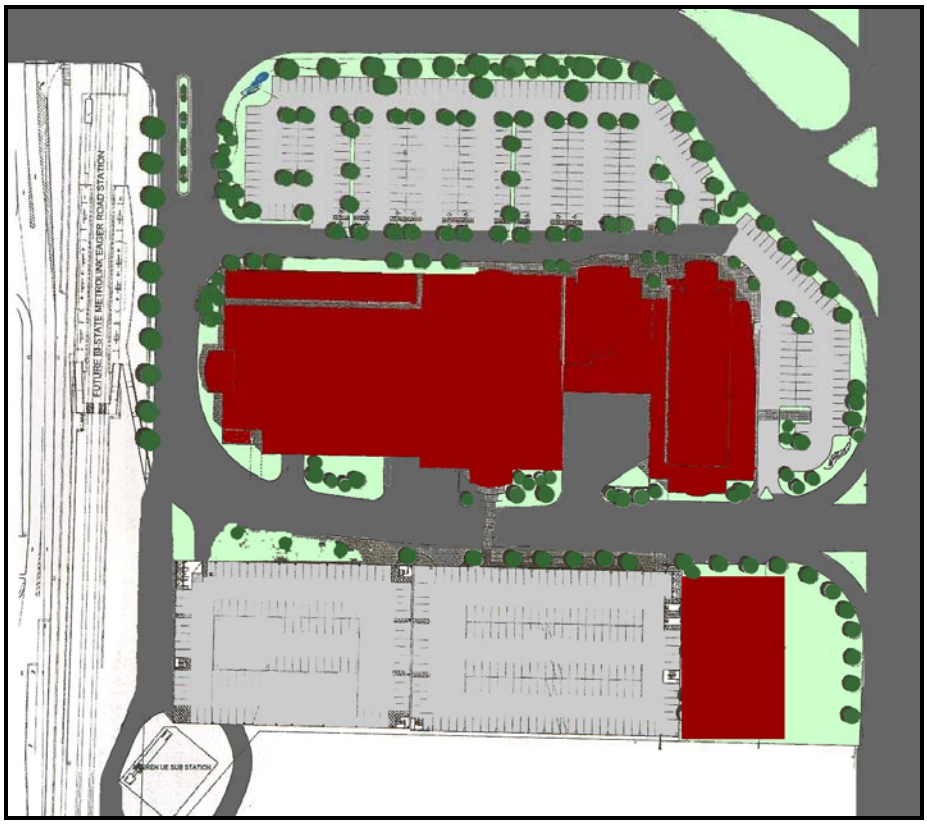


Figure 18: The Meridian Site Plan with Station and Bus Turn-Around (station far left, bus turn-around lower left). ©DCM Management.

The Meridian project has a TIF, TDD and the Planned Development District Zoning from Brentwood. Part of the TDD money went to widening the bridge over the tracks, and improving Eager Road and Hanley Road. When Metro presented the station design to DCM, the developer did not ask Metro for changes in the station design but rather modified their own design to fit better with the station-area. The developer and Metro worked together to build a joint garage that can be used by Meridian workers and customers and by Metro riders. DCM built the garage and converted the spaces to condominium units, a portion of which were then sold back to Metro. In addition, the two entities worked together to create a bus transfer turn-around between the garage and the station. Metro built the infrastructure but DCM donated a portion of the land and incorporated the design into the design of the garage.

The Meridian does not have the feel of the typical, Calthorpe-ian TOD. The surface lots in front of the retail and the large feeder road back to the garages destroy some of the intimacy that is necessary to make pedestrians completely comfortable. But, especially when compared to the Dierberg's center across the track (discussed below), it is not a bad compromise for a car-oriented society. There is the beginning of a sense of place around the train station, with a Starbuck's coffee placed between the station and the bus turn-around, there are a mix of uses throughout the day and plenty of movement, sidewalks are provided on every street and crosswalks are provided where crossings should happen. But the pedestrian scale is still missing. It feels like the domain of the car, with a few thoughtful pedestrian concessions.

Hanley Station: MLP Investments has begun construction on Hanley Station, a $100 million mixed-use development south of the Meridian. The site includes three 4-5 story residential for-sale buildings, an extended-stay hotel, three free standing restaurants and several boutique retail spaces. There is one central, wrapped surface lot, and a few on-street spaces but most of the parking is provided in two large, shared garages. Andrew Checkley of MLP called it, "the opportunity to create the first transit-oriented development around light rail in St. Louis."[139]

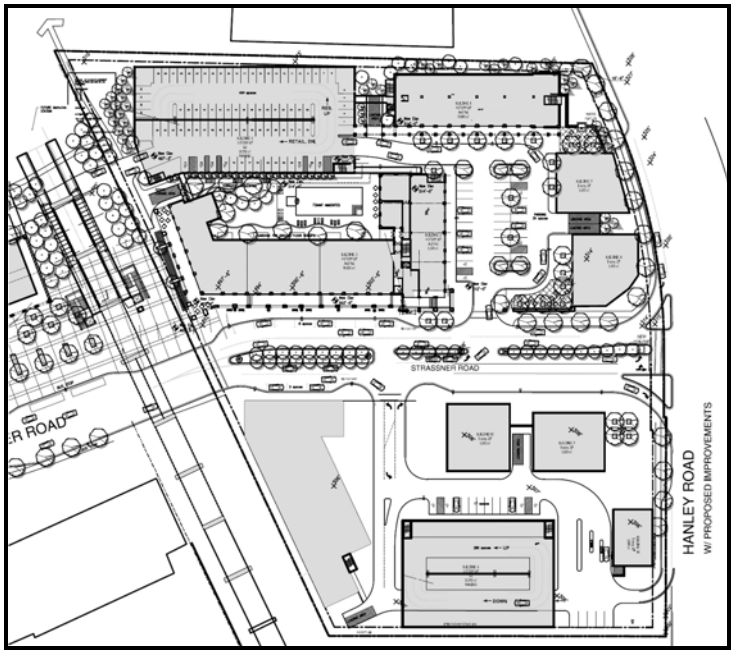


Figure 19: Hanley Station Site Plan with Proposed MetroLink Station

The only drawback is that there is no MetroLink stop. The stop is almost half a mile away at the Meridian. Metro is working with MLP on the feasibility of such a station. "We gave them estimated prices and there has been a lot of talk," Larry Salci said.[140] According to the city, MLP does not have the money to pay for adding the

[139] As quoted in *St. Louis Construction News and Real Estate (*2007).
[140] Ibid.

station.[141] And so it may seem that St. Louis' first TOD has the density, the diversity and the design to be considered TOD, but is missing the transit.

Dierberg's Brentwood Pointe: Before the station was built, Dierberg's grocery store built the Brentwood Pointe shopping center, with TIF and TDD funds from the city. The center has a Dierberg's store as the anchor and two out-parcel buildings in addition to the smaller strip-mall spaces next to the grocery store. The design of the site is a typical suburban-style strip mall with surface parking in front of the one-story, L-shaped building. When MetroLink went in, Dierberg's became concerned that Metro riders would park in their surface lot to use the station. To deter this sort of behavior, they built a ¼ mile long fence separating the station from the shopping center. As a result, transit riders have to walk a half a mile to get from the station (which is just east of the grocery store) to the door of the grocery store. This walk takes them back behind the truck and employee entrance, underscoring the unwelcoming feeling. There are few sidewalks and crosswalks within the shopping center (aside from the fronts of the connected stores) and pedestrians must dart between cars to get to either of the out-parcels.

According to the City of Brentwood, Dierberg's is rethinking their pedestrian in-accessibility policies and are interested in modifying the development (and hopefully the fence) to accommodate transit riders who wish to shop in the center.[142]

[141] Interview with the City of Brentwood
[142] Interview with the City of Brentwood. Dierberg's declined to be interviewed for this study.

Figure 20: The view of Brentwood Pointe from the end of the path from the MetroLink station. The front of the development is directly next to the station.

The Promenade: West of the Brentwood Pointe shopping center is another, larger shopping center called the Promenade. The Promenade was built in 1997 with TIF and TDD and the use of eminent domain. Like the Pointe, the Promenade is a typical, low-rise, low-density, car-oriented strip mall. Every store has a sidewalk in front of it but there are no connections across the parking lots or to neighboring developments like Brentwood Pointe. In fact, the sidewalks end before the city-managed sidewalks on Eager Road begin.

The Promenade has many popular, regional tenants like Target, Trader Joe's, World Market, PetsMart, the Shane Co., and others. It is also the only such regional shopping center accessible (or, at least, mildly accessible) by MetroLink. As a result, transit riders are often seen climbing up and down the hill separating the development from the Pointe (and the station), carrying shopping bags carefully as they scramble up

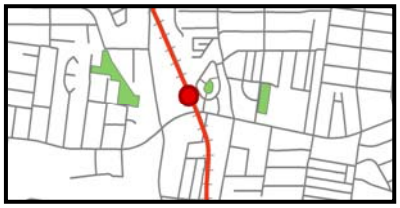
the hill. Hopefully, the problem of accessibility for transit riders to the Promenade will be addressed in the city's plan for re-establishing connections.

Current Status

With the Meridian and Hanley Station going in, the City of Brentwood, local developers and the market are showing that they understand higher density, pedestrian-friendlier developments. However, previously built, low-rise, low-density, low-accessibility shopping developments are detrimental to the station's potential as a transit hub. If accessibility were improved, even retro-actively without changing much more of the shopping centers' designs, the Brentwood station has the potential to become a major retail and commercial stop on the Cross County line – in the same way that Brentwood has become a major retail destination for automobile trips.

Case Study #8: Maplewood / Manchester

City: Maplewood



About the Station Location

Maplewood is one of the oldest suburbs in St. Louis, starting as a streetcar suburb in the unincorporated county. In 1896, the St. Louis Meramec Railroad Company opened a trolley line that ran from downtown St. Louis to the Sutton Loop in the center of what is now Maplewood. This new line resulted in an explosion of subdividing and population growth. Most of the houses in the city were built during this era (1895-1910), and tend to be one- and two-story, frame or brick houses on narrow lots with alleys running down the middle of each block. In 1908, the community incorporated as Maplewood. The City's accessibility by streetcar (a second line down Yale Avenue was added in 1921) made it a retail destination. The downtown business district along Manchester Avenue boasted several large stores along with second-floor office space and smaller, specialty stores.

Maplewood suffered from the same rapid disinvestment in the 1960s, 1970s and 1980s as many other inner-ring suburbs, as flight drove the professional classes living in Maplewood to suburbs further west in the county. With the flight of residents with disposable income, the downtown district also declined. However, in the recent past, the stock of quality, affordable housing has brought young families and young professionals back into Maplewood and the downtown has seen a revival with several independent restaurants, a new grocery store, a renovated bowling alley, a restaurant and bottleworks for a local brewing company, and several boutiques and specialty shops.

Maplewood is has just under 10,000 people and the lowest median household income of any of the municipalities on the Cross County line. 10.6% of the families in

Maplewood are living below the poverty line. With the market visibly growing in Maplewood, but the population in need of services and opportunities, TOD would be a sensible option in Maplewood.

The Maplewood / Manchester MetroLink Station is located on the western edge of Maplewood, just northeast of the intersection of two major arterial roads: Hanley Road and Manchester Road. The station is on a raised platform on a trestle and is accessed off of Manchester Road. According to the City of Maplewood, within the next few years, a bus turnaround will be built next to the station on the northern side of Manchester.[143] Currently, transit riders have to cross Manchester to board any eastbound buses.

Current / Pre-Existing Land Use around the Station

To the west of the station, between the station and Hanley Road, is a large, mixed-tenant office building and their adjacent surface parking lot. South of Manchester Road (southwest of the station) is the 11 acres comprising the Sunnen Corporation World Headquarters building. Southeast of the station is a mixture of uses including light-industrial and single-use retail on both sides of Manchester Road. Behind the single-use buildings fronting Manchester are single-family and multi-family residential buildings and slightly further east is a grade school. East and northeast of the station are low-density, single-family neighborhoods, behind the light-industrial and retail on Manchester. Four blocks east of the station on Manchester is City Hall and Maplewood High School. Directly north of the station is undeveloped flood plain that is inappropriate for development but can remain open as park space.

[143] Interview with City of Maplewood.

Both sides of the station north of Manchester have the highest potential for re-development. The office building and adjacent parking lot west of the station, fronting Hanley Road, have the potential to be a strong, mixed-use, retail and commercial center. As seen by the development north of here on Hanley Road, the market for a development in this area is huge. Manchester and Hanley are two of the busiest, non-highway arteries in St. Louis and a development here could take advantage of both car and transit traffic. One of the current tenants of the mixed-tenant office building is the Enterprise Rent-a-Car Call Center. This location is particularly advantageous for them because many of their employees commute on MetroLink, cutting down their parking needs for an unusually dense commercial use (call centers generally have 150 square feet per employee; a regular office generally allocates 200-300 square feet per employee).

The four blocks between the station and City Hall along Manchester are highly visible but relatively underdeveloped, with single-story, single-use retail buildings and surface parking. The neighborhoods behind these buildings have small blocks that could be easier to acquire. And finally, the flood plain provides designated public space near the station and in the center of a potential development. Any development around this station would require some major acquisition, but many of the most essential parcels are large and are commercial property, making acquisition easier.

Local Government Support / Regulations

The City of Maplewood is interested in but cautious regarding the prospect of development around transit. "TOD is a pioneering idea in St. Louis – it will mature

eventually," said a representative of the city.[144] The representative seemed to imply that the market and developers of TOD have not matured in St. Louis and, therefore, now is not the time to focus on TOD in Maplewood.

The city recognizes that TOD on already developed lines needs subsidy; the representative explained that TIFs, TDDs, and all the economic development tools available "would be on the table for redevelopment – but the project has to be a win-win for Maplewood." The city would consider doing a Planned-Unit-Development for mixed-use development, but would not change the zoning in any area to accommodate development. Maplewood is not interested in issuing any RFP's or RFQ's for the area on Manchester (which has the greatest potential in their eyes) because they would want the development to be mixed-use with residential and do not want to have more residential units available in the currently poor market.

In anticipation of the station going in, Maplewood applied for a "Great Street Grant" to improve Manchester from downtown Maplewood to the station. This was turned down due to the sheer length of the proposed project (over a half-mile from the western edge of Downtown to the station).[145] However, the city did receive transportation enhancement funds to improve and expand sidewalks, street furniture and lights down to Laclede Station Road (two blocks east of the station).

In an attempt to further increase the connections to the station from the rest of the community, Maplewood proposed a shuttle that would be managed and run by the downtown community improvement district (but maintained and purchased by the city). The shuttle would run loops through downtown and then shuttle passengers to the

[144] Interview with the City of Maplewood.
[145] Interview with East-West Gateway

MetroLink Station. The business owners, according to the city, were "less than lukewarm" about the idea.[146]

Agency Coordination

Coordination between the City of Maplewood and Metro was strongest during the planning of the Sunnen Station (see the next case for details). For the Maplewood / Manchester station, there was much less coordination.

Metro and St. Louis County requested that the TDD funds from the Hanley Road Lowes project be used to build the Hanley Road MetroLink bridge. The funds had been earmarked to build the bus turnaround next to the station. Maplewood agreed to transfer the funds under the condition that the county was then responsible for the bus turnaround. The bridge has been built but the bus turnaround has not yet been built, which has resulted in a decrease of trust on the part of Maplewood and might have thrown into jeopardy Maplewood's willingness to participate in future coordination activities.[147]

One of Maplewood's additional complaints with Metro is that "MetroLink missed the boat by not providing more parking facilities. They didn't have the money for land acquisition, so they just focused on the station."[148] This illustrates the perceived need for automobile-oriented design even around a transit station. It was not important for Metro to acquire land for adjacent development, but rather for accommodating park-and-ride uses. Maplewood, even with its small lots and shorter block sizes, is still a car-oriented city and pedestrian connections are not as strong as automobile connections.

[146] Interview with the City of Maplewood.
[147] Ibid.
[148] Ibid.

Development: None Planned

SunQuad, the Sunnen real estate development department, has plans for expansion within its headquarters site, but other than this, there is currently no development planned around the Maplewood MetroLink Station.

Current Status

The Maplewood / Manchester station does not have adjacent land that is immediately available for development. However it is does have several under-developed areas that have great potential to support denser, more mixed-use development. Plus, much of the adjacent land is in large lots that can be easily assembled for a large development. The market is strong for retail and commercial uses in the very visible sites along Manchester and Hanley. And the government of Maplewood is willing to use economic development tools, and has a history of using TIF, TDD and PUD to bring development to Maplewood (the Sunnen Business Park and the Shop-n-Save on Manchester are good examples). Maplewood has used eminent domain for developments in the past but will not commit on whether or not they would be willing to help with land assembly. However, if the city is unwilling to help with land assembly, land costs might be too high around the station to make acquisition and assembly possible.

Case Study #9: Sunnen

City: Maplewood

About the Station Location

The Sunnen Station is the second of two stations in the City of Maplewood, Missouri. A description of Maplewood can be found in the Maplewood/Manchester Station case study.

The Sunnen Station is on the western edge of the Sunnen Business Park, at the intersection of Laclede Station Road and Sunnen Drive. The Business Park is in the southwest corner of the City of Maplewood. Sunnen Drive connects to Big Bend Road (a major street) to the east and to Laclede Station Road (and, on the Hanley Road) from the southwest.

Current / Pre-Existing Land Use around the Station

Directly west of the station is a multi-family housing development from the fifties. Northwest of the station are a few, small low-density residential streets. North, south and east of the station is the Sunnen Business Park. The Sunnen Business Park was started in 1995 with a 23-year property tax TIF from the City of Maplewood. The Business Park is a traditional, suburban-style business park with winding streets, cul-de-sacs, low-rise buildings (between one and three stories), and surface parking. Sidewalks are minimal and are designed more as "walking paths" than transportation infrastructure. There are no bike paths, interior cross-walks, or traffic-calming bump-outs or on-street parking.

There are over 25 tenants in the park's 62 acres, all of which are privately maintained by the park (including security, lighting and streets). North of the Business

Park is another small low-density residential area and east of the Business Park is Big Bend Boulevard, with single-use commercial development in front of low-density residential.

The park offers the greatest potential for development around the station. The land is already assembled under one owner, the owner is interested in at least one form of real estate development, and there are still undeveloped lots in the park. The visibility of the Business Park and the station from main roads (Big Bend in particular) would be enhanced by denser and higher development. The location of the park is halfway between two highways (I-44 and I-64) and with a larger scale of development, commercial space within the park should be attractive to the market. This might be a great opportunity to show how a low-rise, low-density, suburban-style office park could, with particular choices and adjustments, be made more dynamic, interesting, and attractive to new businesses.

Local Government Support / Regulations

As said above, the City of Maplewood is interested in but cautious regarding the prospect of development around transit. In terms of the Sunnen Station, the City of Maplewood played a strong supporting role in getting the station placed in the office park and not further down Laclede Station Road (see "agency coordination" below).

The city has already granted the Business Park a 23-year property tax TIF and would be willing to make additional economic development tools available. But, again, the city would be unwilling to change the zoning in the area; only a PUD would available in terms of mixing uses.

Maplewood is concerned about parking for special events at the Business Park and has been working with the Park management to keep would-be park-and-riders from using the private lots in the Park.[149]

Aside from being interested in (assuming it would be a "win-win" for the city) transit-oriented development and being willing to use PUDs to create a mix of uses, the City of Maplewood is not putting any pressure on the Business Park to change or modify its development patterns.

Agency Coordination

The City of Maplewood coordinated with the Business Park, East-West Gateway and Metro in the planning and design portion of the extension and, as a result, is pleased with the outcome.[150]

The City of Maplewood joined forces with Sunnen during the planning stages of the extension to get the station moved from Laclede Station Road and Hanley into the office park. Sunnen had the rights to the easement through which the line was going (CMT and AmerenUE also had a portion of the rights), so with the help of the city, they approached East-West Gateway to petition for a change. East-West Gateway, understanding that the park could be considered an employment center, acquiesced, and the station was moved to the Business Park. The city "is not aware of any tenants that went into the park because of the station, but the station is an asset to the Business Park and the Business Park an asset to the city."[151]

[149] Interview with the City of Maplewood
[150] Ibid.
[151] Ibid.

In addition to moving the station into the Business Park, the city coordinated with Metro to make the station fit on the site. This involved closing the street at Flora (so no horns sound as the trains go through), closing Laclede Station, and bending the right-of-way at Flora to re-route traffic.

Development: None Planned, Other than Business Park Development

There is currently no development planned around the Sunnen Station other than the continuing plans of the Business Park. There are several more buildings planned on the empty lots of the park, but they will not be built until tenants are signed.

Current Status

The potential of something very exciting going in at the Sunnen Business Park is huge. The empty lots and growing needs of current tenants could provide an opportunity for expansion that is station-focused. The multiple surface parking lots provide additional room for development. The government of Maplewood is receptive to development around stations and the current city manager, Marty Corcoran, was considered one of the lynchpins in the development of the business park to begin with and has a strong relationship with Sunnen.[152] Because of the relative isolation of the station from major arteries (Hanley does not directly abut it and Big Bend is on the other side of the Park), regional retail does not make sense in the Business Park, nor does housing. But service retail that can meet the needs of employees in the park along with more pedestrian-friendly connections through the Park and into surrounding neighborhoods would go a long way toward making the station a more active, appealing area and MetroLink a more

[152] Csolak (1997)

appealing transportation option. Business Parks do not have to look like sprawl to be successful. Maplewood and Sunnen have the opportunity to create an urban job center, where employees can walk to get lunch, pick up their dry cleaning or drop their children off at daycare and where employers want to locate for its central location, for its connections to other areas, and for the quality of the work environment.

Case Study #10: Shrewsbury / Lansdowne / I-44

City: Shrewsbury

About the Station Location

Shrewsbury is the smallest of the municipalities on the Cross Country MetroLink line and its station serves as the southernmost terminus of MetroLink system. Shrewsbury is an inner-ring suburb of St. Louis and, like all of the municipalities on the line except Brentwood, it shares a border with the City of St. Louis. Shrewsbury was officially platted in 1889. The area incorporated into a village in 1913. The village was accessible only by personal vehicle until the 1950s, when public bus routes were finally expanded into Shrewsbury. Even with the advent of bus service, Shrewsbury has maintained its character as a primarily residential bedroom community. Shrewsbury has a few retail zones with shopping centers along the major arterial roadways and some residual industrial activity along the former rail-lines, but otherwise has very little commercial or industrial activity. Shrewsbury has 4 city parks and the River Des Peres Greenway, a portion of the St. Louis Regional Greenways system, runs along the eastern border with the City of St. Louis.

The Shrewsbury/Lansdowne/I-44 MetroLink Station is located in the north-eastern quadrant of Shrewsbury on the border with St. Louis City limits and just south of highway I-44. The station is accessible from Lansdowne Avenue, a smaller street which connects to River Des Peres Boulevard (a major north-south artery connecting to the rest of South County) just east of the station and Hampton Avenue (another major north-south artery) east of that.

Current / Pre-Existing Land Use around the Station

Northwest of the station is a large, surface park-and-ride lot with 800 spaces which was built and is owned by Metro. To the north of the station and lot is Highway I-44. To the east of the station is the River Des Peres and low-density housing. To the west of the station are existing, in-use railroad trestles. Directly to the southwest of the station (over the railroad) is some multi-family housing and light-industrial and commercial areas, with low-density housing further out. South of the station is River Des Peres Boulevard and Greenway.

The areas near the station with the highest potential for re-development include the Park-and-Ride lot and the area to the southwest of the station. There is potential for a small, neighborhood TOD to serve the needs of the surrounding neighborhoods and the commuters who are driving to the lot. However, the market for a development in this area in general is small. The station is not directly visible from a major automobile artery and the low-density residential area surrounding the site offers little opportunity for expansion without a major land acquisition plan and, most likely, the use of eminent domain.

Local Government Support / Regulations

The Shrewsbury government is enthusiastic about the prospects of development around transit and TOD in particular. The Mayor of Shrewsbury is on the board of Citizens for Modern Transit, the St. Louis light-rail advocacy group. The city understands that in order to do a project, developers want help with zoning, finance and acquisition.[153]

[153] Interview with the City of Shrewsbury

The city has established a TOD committee to look into overlay districts, including the design elements of overlays, and other zoning options but no zoning changes have been made yet. The city would "consider a TDD or TIF" for the site and the representative we spoke to, "would push for higher-density TOD instead of regular low-density development."[154] And the city understands that if it wants TOD, it needs to court TOD. "St. Louis is still the sort of city where you have to seek out developers to do TOD."[155] And the city recognizes that to do that, you have to go through the formal process of an RFQ/RFP and is willing to work with Metro to manage that process.

The city is modifying the zoning, is willing to use economic development tools to encourage development and is looking to an RFQ/RFP process, but it is less than willing to use eminent domain to help with acquisition. "The city doesn't have a whole lot of anti-rail people, but they are the same as the anti-development people and they are vocal," explains the representative from Shrewsbury. With Sunset Hills (a suburb just a few exits down I-44) still recovering from a major eminent domain dispute that resulted in complete disinvestment of a neighborhood, eminent domain is no longer an option for politicians who want to be re-elected. In addition, "density is a bad word in parts of Shrewsbury"[156] and also an unfavorably looked-upon policy, even at the edges of the suburb where commercial development is already occurring. The government must overcome this prejudice before it can begin to market the possibilities of TOD to neighbors, residents and developers.

[154] Interview with the City of Shrewsbury
[155] Ibid.
[156] Ibid.

Agency Coordination

Coordination between the City of Shrewsbury and Metro has been extensive. At the request of the city, during the planning stages, Metro moved the station to the eastern edge of the site. As a result, the station no longer bifurcates the site, leaving the rest of the lot available for future development. Metro improved the sidewalks in the immediate vicinity of the station when it was built and the city has asked Metro to put up a fence, which Metro has said they will do.

Metro owns the largest contiguous piece of land near the station that has the highest potential for redevelopment (the park-and-ride lot). Metro has suggested to the city that if development was proposed, the parking could be move to structured parking and the rest of the site could be developed. However, Metro still has control of this land and its use and will most likely still insist on having the same number of free park-and-ride spaces. Building that many free spaces in a structured garage in an otherwise unproven market like Shrewsbury could turn out to be financially impossible. Any RFQ/RFP issued by the city will require great coordination between the city and Metro to insure that the land is, in fact, available for development.

Even with open lines of communication between Metro and Shrewbury, there is a further obstacle to more intense re-development around the station: the fact that the site straddles the City of Shrewsbury and the City of St. Louis. This is seen as a "problem" by Shrewsbury because the City of St. Louis has been historically unwilling to coordinate efforts with municipalities in the county. This political barrier is much stronger than the geographic barrier of River Des Peres (which could serve as an amenity to developments

on both its banks) and needs to be overcome if a potentially large-scale development could occur that straddles both districts.

Development: None Planned

There is currently no development planned around the Shrewsbury Station, but in June of 2006, a charrette was held by the city and hosted by Citizens for Modern Transit to discuss possible ideas for development around the station. The Park-and-Ride land would be immediately available for development (with the well-used free parking re-accommodated as structured parking) and would serve as the focus for any proposed development.[157] In the charrette, the public seemed to prefer a mix of retail and housing, and the city government was supportive of this, wanting to update the zoning code to match what the residents envisioned.[158] In addition, the public was interested in recreation on River Des Peres and how it could connect to any development around the station. However, the charrette also "had a big turn-out of anti-any-development people" especially density development.[159]

Other than the charrette, only one developer has approached the city with a plan for any development near the station – an owner of an apartment complex near the site (mostly in the City of St. Louis) who wants to update his properties.[160]

[157] Thimangu (2006)
[158] Ibid.
[159] Interview with City of Shrewsbury
[160] Ibid.

Current Status

The Shrewsbury station has adjacent land that is immediately available for development, however it is not a large lot. And there is no additional under-developed land that has been assembled or can easily be acquired for a large development. In addition, the market is not necessarily good for retail in the relatively isolated location on a smaller road. But the government of Shrewsbury is receptive to development and, while unwilling to help with land assembly, will aid with zoning, economic development tools, and coordination with Metro if it means gaining a well-designed TOD. However, Metro has made it clear that the park-and-ride spaces must be accommodated within any development and must be free for transit riders. This illustrates the region's (and Metro's) continuing fixation on Automobile-Oriented Design. Any new development on the site would face the enormous expense of building structured parking on which no rent will be paid. Until the line is extended south (and another park-and-ride lot can be built at the new terminus) there is only a slim chance the development will occur around the Shrewsbury MetroLink station.

7. POLICY RECOMMENDATIONS | IMPLICATIONS FOR PLANNING

The literature suggests five major obstacles to TOD-style development: Locational Liabilities, Market Cycles, Government Policies and Support, Institutional Barriers and Agency Coordination, and Fixation on Automobile-Centered Design. This is supported by the case study evidence in St. Louis which shows how each of these obstacles has prevented stronger, TOD-style development from occurring. This section presents ten policy recommendations for overcoming these obstacles in St. Louis. Table 8 shows the policies, the obstacle that each policy addresses, and the key players for implementing those policies.

	POLICY									
	1. Using increment for land assembly	2. Metro's aid in acquisition	3. Site stations in compatible areas	4. Site stations in visible areas	5. Explore use of eminent domain and TIF	6. Use smart-growth and shared parking	7. Station-area design / zoning	8. Finding & educating tenants	9. Regional leadership	10. Competitive station-area planning
OBSTACLE	Locational Liabilities / Market Cycles				Local Gov't Support		Development Design		Agency Coordination	
KEY PLAYER: Developer						✓	✓	✓		
KEY PLAYER: Municipality	✓				✓	✓	✓	✓		
KEY PLAYER: Metro		✓	✓	✓		✓	✓	✓	✓	✓
KEY PLAYER: East-West Gateway			✓	✓					✓	✓

Table 8: Policies and key players for addressing obstacles to TOD in the St. Louis Region

As stated above, and described in the case studies, locational liabilities are a major obstacle to large, transformative station-area development. According to the contacted stakeholders, many of the locational liabilities of station-areas derive from land acquisition issues and station placement more than market issues and inappropriateness of land for development. Station sites that are visible from major traffic arteries are

appealing from both a market standpoint and seem to be more popular with TOD-style developments than stations that are hidden away from adjacent traffic corridors.

The station-areas with the highest amount of TOD-style development have aid from their governments in the form of economic development tools and land acquisition or have particularly strong markets. In addition, these governments have TOD-supportive zoning that allows for mixed-use and high-density development and have encouraged shared parking and using smart parking techniques to help reduce parking costs without discouraging potential tenants.

Pace, in their Boulevard project, successfully recruited tenants for the high-density developments by finding businesses that had experience in "main street" developments before or by educating new businesses to the benefits of such pedestrian-friendly environments.

The TAD developments studied do not have pedestrian connections to the station or within the development to encourage use of transit or even advertise the existence of transit in the development area and have suburban, car-oriented designs that inefficiently capture the benefits that transit brings them.

Finally, as shown by the planning process and the general opinion of every municipality studied, Metro and the municipalities were not involved in the planning or decision making when it came to where the line was going and where the stations were to be placed. Without collaborative or competitive buy-in, the municipalities were forced to create their own development plans around the station, regardless of regional goals or what might be best for the station-area, transit-riders, Metro or the region.

In this chapter, ten policy recommendations for overcoming these real-life obstacles to TOD are presented.

Overcoming Locational Liabilities | Market Cycles

Almost all of the developers, agencies and municipalities contacted in this study cited locational liabilities as the number one reason preventing more Transit-Oriented Development from occurring in the region. Because the Cross County line followed mostly rail-road right-of-way and traveled down a well-used, well-developed central artery, there is not enough available land to develop near the stations. As the representative from St. Louis County explained, "TOD needs greenfields" and the central corridor doesn't have any.[161] In addition, half of the municipalities (University City, Clayton, Maplewood and Shrewsbury) were unwilling or unable to use eminent domain to help with land assembly. The largest, undeveloped space near any of the stations is the flood plain in Maplewood that cannot be developed and almost all of the municipalities considered themselves to be primarily residential and would not consider encouraging the removal of low-density, single-family homes for higher-density development, even for potentially strong economic development benefits.

Many of these locational liabilities cannot be solved due to the structure of the funding of MetroLink. In St. Louis, federal funding is deemed essential for any additional infrastructure improvements, including MetroLink. The county official explained that this is because St. Louisans do not like to spend money on infrastructure,

[161] Interview with St. Louis County

on transit routes, and on non-car oriented developments.[162] As a result, MetroLink is funded through the federal matching program. This means that the lines need to go through areas that already meet the federal requirement for ridership counts. It also means that the federal money must be matched by local money. This match was achieved in the original MetroLink line by the donation of the right-of-way. Finally, to get the federal match, the economic development benefits of the line (not of development around the line) must be proven; the line must connect existing people to existing jobs.

In 1980, the voters of the State of Missouri approved the Hancock Amendment, which requires a public vote on any tax increases in the state, even at the local level. Because every new tax must be approved by a public vote, creating new revenue streams for public projects is particularly difficult in St. Louis. In addition as a result of the Hancock Amendment, the revenue of the State of Missouri has not grown as quickly as its needs or interests and the state is limited in its support new initiatives. For this, and other reasons including an urban/rural rivalry, the State of Missouri is unlikely to give increased support for Metro. Until St. Louisans and the State of Missouri are ready to pay for the entire cost of a new line, MetroLink has an ongoing need for federal support. And, because of the federal requirements, MetroLink will continue to follow railroad right-of-way or major arteries; it will connect developed areas with people to developed areas with jobs (and not greenfields to greenfields); and it will go through areas with high population counts in order to meet ridership numbers.

The one nice compensation of the federal funding requirements is the effect they have on the market cycle liability. Even in the Cross County line, where federal money was not used, the train serves to connect areas that have strong market potential. Every

[162] Ibid.

municipality on the Cross County line displays evidence of a growing market – according to every municipality, real estate prices are increasing, land values are increasing and average household incomes are increasing. Because of this, the market for more dense development and mixed-use development is strong in the areas around the line. If the other locational liabilities can be addressed, the market in these areas should be attractive to tenants and developers.

As Metro asked, "If you use incidental right-of-way, how do you plan around it? You are stuck with the lines and areas that are already there."[163] Recognizing the fact that MetroLink will continue to follow the path of least resistance, that is to say, railroad right-of-way or other major arteries, does not mean that locational liabilities cannot be offset in the planning process. There are four policies that can be used to address some of these issues.

Land Assembly Assistance:

POLICY 1: Municipalities using Increment for Land Assembly. As explained by a former City of St. Louis Official: "Chicago uses the increment to off-set land price increases." If redeveloping land is too expensive to acquire and develop, municipalities can use TIF and other taxing districts to off-set the land price and make the projects more affordable to developers. While the tradition in St. Louis is to offer TIF to every developer out of fear that the developer will move down the street to a different municipality, MetroLink is connecting strong markets and, if the land price is offset, the development could be appealing without additional subsidy.

[163] Interview with Metro

POLICY 2: Metro's Aid in Acquisition. The land in Shrewsbury that is available for development is available because it is a parking lot owned by Metro. The DeBaliviere parking lot was used as a staging ground for construction when the line was being put in. The Trianon site was another staging area (albeit leased to Metro, not owned by Metro) for Cross County. When lines are planned, areas around the immediate station area can be acquired by Metro for staging grounds and parking lots. The staging areas and parking lots effectively act as a "land bank" for future developments. If a line goes through a growing market that has not yet reached a point where it can support high-density development, the land can be held on to as a parking lot until the market does reach that point. And when it does, there are no assembly issues – the land is available for development. In this way, Metro can also control that type and style of development since they control the land and can choose which project they want built on it. This is an expensive policy for Metro and will add cost to the cost of building the lines, but the costs are recoupable once the station and adjacent projects are built. As Citizens for Modern Transit explained, "Other transit agencies have TOD managers that work with municipalities and developers to make TOD happen. Other transit agencies lease land."[164]

One of Metro's duties as outlined in their mission statement is to aid in economic development. Metro's board recognizes that the transit structure they inherited is now fixed and functioning. Now they can explore the economic development role of Metro – a small element in total operations, but an important element none the less.[165] By

[164] Interview with Citizens for Modern Transit
[165] Interview with Metro

acquiring and assembling land as new lines are constructed, Metro has an additional tool to aid the region's economic development.

Station Location:

The opportunities at the Forsyth Station, the Richmond Heights Station and the Brentwood Station (and the proposed Hanley Station) occurred because there were large amounts of underused commercial land around the station site. Parking lots, as mentioned above, can make great land banks, as can older, underutilized strip malls and light-industrial areas. Another important factor in creating dynamic, interesting and profitable station areas is situating those stations in places where the immediately adjacent land can be modified and redeveloped in a station-area development. In addition, all of these sites are (or can be) highly visible from the established transportation corridors in the region, making the market for development that much stronger. The Sunnen Station, by contrast, is hidden within an existing project and unless the business park modifies its style of development, has little-to-no opportunities for dynamic growth around the station.

POLICY 3: Site stations where surrounding pre-existing land uses are compatible with redevelopment. In the planning stage of MetroLink, Metro and East-West Gateway should work with municipalities to place stations where there are the most opportunities for redevelopment, and not where there is already new development that is not transit-friendly (for instance, the Pointe in Brentwood). Parking lots, aging strip malls, underused light industrial areas – these are all areas that have the strongest potential for redevelopment. If the Forsyth Station was placed where it was originally proposed (next

to the Ritz Hotel and the Plaza in Clayton Residence Building), new development around the station would be limited to the lot across Carondelet (now the Crescent in Clayton) with no potential for creating a new, dynamic place immediately around the station.

POLICY 4: Site stations in areas that have a potential for visibility from other modes of transportation. Even with growing markets, visibility is critical for mixed-use development to succeed. East-West Gateway and Metro should site stations where they are potentially visible from other modes of transportation. While this is somewhat secondary to Policy 3, where possible stations and station-areas should be visible from existing transportation corridors, it will strengthen the market appeal of potential development and bring more visibility to MetroLink in general, strengthening the potential market from transit riders.

Local Government Support / Regulations

In a recent article on TOD in St. Louis, Metro Executive Larry Salci faulted local governments for the lack of TOD in St. Louis. "Ultimately, land use decisions are made at the local level. Local communities control and ultimately determine what should be built."[166] But, aside from the general unwillingness to use eminent domain in land acquisition, local government support for TOD along Cross County MetroLink seems to be high. All of the municipalities, with the exception of Maplewood and the City of St. Louis have zoning codes that accommodate TOD. And Maplewood and the City of St. Louis have ways to accommodate TOD without necessarily changing the zoning.

[166] Larry Salci, Executive Director of Metro, as quoted in *St. Louis Construction News and Real Estate (*2007).

All of the municipalities are willing to use, if possible, economic development tools like TIF, TDD and Chapter 353 Tax Abatement. In fact, the only tool that many of the municipalities along the Cross County line are unwilling to use is eminent domain.

The municipalities are also less willing to change parking requirements or parking policies. Instead of looking at each development as a self-contained unit with a set amount of parking needs, cities need to look at parking in sectors and shared across developments.

POLICY 5: Municipalities should explore land assembly options like eminent domain and increment financing. According to Citizens for Modern Transit, in order for TOD to occur, "The government should help assemble parcels for developers."[167] Policy #1 explores one possible option for municipal aid for land assembly by using the increment to pay for the increased cost of land. Another method of assembly assistance is outlined in Policy #2: some acquisition can be performed on the region level by Metro. An additional municipal method is the use of eminent domain. Richmond Heights and Brentwood are the only municipalities that have used eminent domain in the developments around their station and, as a result, have much more development (if not necessarily "good" development) around their stations. Eminent domain is a risky solution politically, especially in the post-Kelo era, but it should not automatically be discounted. Municipalities should explore the option of using eminent domain to help assemble parcels, especially if a developer has already acquired a certain percentage of the parcels needed through the market. If eminent domain is deemed politically impossible to use in a situation, then obviously it will not be used. But municipalities should not automatically remove it from the table.

[167] Interview with Citizens for Modern Transit

POLICY 6: Use smart-growth parking numbers and facilitate shared parking across developments. Municipalities can control parking requirements and help facilitate sharing across developments. A hotel on one parcel might need a certain amount of spaces at night that can be used during the day by an office building on another parcel. Even if two different developers are at work, the parking can be shared. Clayton, by using smart-growth parking numbers and by facilitating shared-parking across several developments, was able to limit the amount of new parking needed to be built to accommodate Trianon. By contrast, four different garages are being built to accommodate the Fountains and the Boulevard in Richmond Heights, two for each development, plus two more already in use by the University Club, creating a glut of parking, an inefficient use of space and an expensive solution for all of the developers.

Development Design and Accommodating Automobiles

In St. Louis, even along MetroLink, automobiles are given the priority. Accommodating automobiles with park-and-ride lots, passenger drop-off, and garages seems to be the norm around MetroLink stations and through-traffic is more important than pedestrian traffic even next to a station. Retailers want surface parking spaces that can accommodate their customers on their busiest days and have a full view of their store.

POLICY 7: Design and land use around stations should maximize the benefit of that station. Metro, with help from Citizens for Modern Transit (CMT), need to work with municipalities to explore options around stations, station design and zoning, during the planning process.

At the corner of DeBaliviere and Forest Park Parkway, even with the hub of MetroLink right there, there are no crosswalk signs to cross the parkway from the station into the park. The Clayton Station has one point of access and that is through a bus depot and parking garage. Both of these problems could have been easily solved in the development process. Clayton has land that it could share with the county to move the garage further back on the site and accommodate a livelier mix of uses next to the station. The DeBaliviere problem can even be solved today, with the installation of a proper crosswalk.[168] If the space is used to accommodate cars the way every other development in the city is used, the economic benefits of the station will not be realized. As a former St. Louis City official said, "Cross County essentially shows that we spent $600 million to have what was already there."[169] Municipalities should consider the land around their stations as a limited commodity and, in addition to having zoning and economic development tools available, should have goals for immediate station-area design. CMT has already drafted a TOD zoning code that may have more stringent restrictions for appropriate for station-area development than the typical, mixed-use zoning code. Cars do not need to be accommodated right next to the station; people and pedestrians do.

POLICY 8: Finding and educating tenants. The developers spoken to generally agreed that tenants (especially retailers) are very concerned with non-car-oriented developments. But, as shown by Pace Properties' Boulevard development, often the market is more important than the design of the development to retailers. If the market is strong (and previously suggested policies combined with requirements for Federal match funding will hopefully lead to a strong market), retailers are willing to listen and compromise on their

[168] Update 12/05/2007: A crosswalk has been installed to help pedestrians access the park.
[169] Interview with former St. Louis City official

typical parking arrangements. In fact, as Pace discovered, many retailers are only interested in spaces that are in "Main Street" developments.[170] In the car-oriented world, many retailers simply do not have experience with non-car-oriented developments. And yet, most retailers in the county are willing to go in successful malls where the only access to their store is pedestrian. Municipalities can show developers how to explain the benefits of TOD to tenants. As said previously, if the market is strong, tenants will be willing to listen.

Agency Coordination & Cooperative & Competitive Station Planning

Cross-jurisdictional cooperation is essential to successful TOD and it is very hard to achieve. As shown in the planning process for Cross County MetroLink, East-West Gateway, Metro, the City, the County and surrounding municipalities all came to the table with different agendas and different goals. East-West Gateway focused only on the planning of the line; Metro brought in the engineering only after the line had been planned and vetted to politicians; municipalities were only invited to comment after the line was decided upon. There was no regional vision for what the line should do (other than go from point A to point B) and what stations and station areas should look like around the line. As a result of the lack of coordination and communication, the Cross County line which was the cheapest and most acceptable, ended up becoming much more expensive and, therefore, politically unfavorable, and may have fewer opportunities to provide economic development benefits through TOD-style developments. Two policies can help reduce this set of circumstances from occurring again.

[170] Interview with Pace Properties

POLICY 9: Agency coordination and communication through a regional leader. The good news is that agency coordination and communication has already started to happen with the planning of the next MetroLink lines. According to both agencies, after the experience with the Cross County extension, Metro and East-West Gateway are working better together and engineering and planning are occurring in conjunction with and with input from both agencies. "At the moment, we have succeeded in a major policy shift."[171] But this needs to go further. As Metro explained "Most people and municipalities can not do long-range planning and you run into public misperceptions of what new visions mean – developers and planners have to navigate this."[172] Metro and East-West Gateway need to take leadership roles in helping municipalities explore the possibilities of transit and transit-oriented development. As Larry Salci explains, "There is usually a partnership which creates formal linkages through zoning to create TOD."[173] This partnership should be regional in nature and should have enough control over the planning and implementation portion of MetroLink to enable it to have real power over land use decisions and route decisions. If Metro accepts Policy 2, then Metro-controlled land can serve as a powerful leverage in creating a regional plan around MetroLink lines.

POLICY 10: Competitive Station-Area Planning. One of the reasons regional planning is so difficult in St. Louis is due to the incredibly fragmented nature of the government. Municipalities compete with each other to get the highest tax base and, therefore, the highest and most efficient delivery of services. As one official from St. Louis County explained, "The only way you can put municipality differences aside is to take away the

[171] Interview with Metro
[172] Interview with Metro
[173] Larry Salci, Executive Director of Metro, as quoted in *St. Louis Construction News and Real Estate* (2007).

zoning issues, tax issues and school issues. And you have to answer the question: who is going to be in charge?"[174] But instead of this fragmentation being detrimental to MetroLink and TOD planning, it might be an asset. As the former City of St. Louis official explained, "Use the market model of shopping between municipalities to find a municipality that is willing to bite." If a station can be located in one municipality over another, East-West Gateway should require the municipalities to bid on what they are willing to do to help encourage development around the station. Bids do not necessarily need to be judged only the value of market-rate development, but quality of life values like workforce housing, green building, and quality of place. Even more than single-station placement, lines can be determined based on a municipality's willingness to accommodate the line and the station. Even on a mostly railroad right-of-way route like Cross County, stations and lines were moved at the request of the municipalities, why not make this a competitive process? As the former City official explained, "You might have to sell it to Wellston first, but you'll sell it to Maplewood as soon as they've see what Wellston has done."[175]

Implications | Limitations | Need for Further Study

Some of these policies may not be possible to implement in all areas. Station sites will not always be in areas compatible with redevelopment or that are visible from other modes of transit. Eminent Domain and Tax Increment Financing, in the post-Kelo environment, may not be politically feasible to use, as the City of Clayton found out with its recent lawsuit. Metro's current financial situation, if not improved, will also limit

[174] Interview with St. Louis County
[175] Interview with former City of St. Louis official

Metro's ability to aid in land acquisition around stations. Similarly, municipalities with low tax bases might be unable to use increment to encourage land assembly.

Municipalities with no experience with such policies might be hesitant to use smart-growth parking and to encourage high-density development. CMT, Metro and East-West Gateway are already taking a leading role in promoting such policies through education and awareness. Metro and East-West Gateway have also begun to increase communication and coordination in the planning process for future lines. This momentum should not be lost.

The use of competitive station-area planning can lead to some politically uncomfortable situations, especially because it would legitimize and politicize a process that previously could be considered merely incidental. Currently municipalities openly compete for businesses and development, but there is no additional funding, federal or otherwise, that might go to the winning municipalities. The exception to this is in the case of transportation funding, which is distributed on a grant process through the Transportation Improvement STP-E program administered by East-West Gateway, but these grants are much smaller investments than light rail would be.

Additionally, those municipalities that have the greatest need for light rail might not be able to put together the strongest plan. Poorer municipalities might have a weaker market and fewer resources to development effective station-area plans. On the other hand, these municipalities might be able to assemble larger parcels of land, giving them a competitive advantage. Also, disparate municipalities might have the strongest plans, but not share the same route, leading to a need to analyze all the proposals on a route, not just the individual proposals.

The benefits of TOD are still disputed. Does the existence of TOD increase transit use, decrease energy use and lead to the economic and social benefits described above? Even if TOD has worked in other cities to produce these results, further study into the benefits of TOD design in St. Louis is necessary. An extension of this study would be to measure the effect those developments deemed "TOD" in the study have on the ridership at their stations, the creation or relocation of jobs and opportunities at each station, a reduction of car use and need for a car by users of the TOD, and an increase in social wellbeing, including mobility, safety and quality of life. A study has already begun on the effects of light rail on property values near the original line and this study should be expanded to include Cross County MetroLink. Another extension of the study would also include examining the type and amount of job centers along the line compared with residential access. If the goal of MetroLink is to move people to more jobs, then portions of the line should have jobs and other portions should have accessible and dense housing. The types of TOD development (whether primarily residential or primarily job-oriented) supported by the above policies should take into consideration achieving the balance between transit-accessible jobs and transit-accessible housing

An overarching goal for almost all of these policies is for East-West Gateway and Metro to view station-area planning and development as a critical component to the planning of light rail in the St. Louis region. Metro and East-West Gateway should have a high-level person on the planning teams whose role is to promote station-area development and implement the more specific policies as outlined below. This person should act as an advocate for TOD in the planning stages of future light rail lines and stations. This person should also be a coordinator and a communicator between

municipalities and the agencies to help the municipalities understand TOD, TOD-supportive zoning, appropriate economic development tools, and shared parking techniques. The TOD advisor should also oversee opportunities to acquire land on behalf of Metro and communicate with developers via RFP's and educational sessions on the value of TOD and how to find tenants for TOD-style developments. This position needs to be high enough and valued enough by both East-West Gateway and Metro to provide real leadership and vision for TOD in the region.

According to one County official, "Our lack of density and our cheapness of land will always make TOD a cocktail party conversation piece [in St. Louis]." This is simply not true. Perhaps TOD as outlined by Calthrope, with a single, expansive, master-planned community, is an unattainable dream when transit lines are serving already developed areas. But smaller, in-fill style TOD with a mix of uses, sense of place and connections to neighboring uses and neighborhoods is already occurring at a small level along parts of Cross County. The Forsyth Station, the Richmond Heights Station, the Brentwood Station and the proposed Hanley Station have great potential to be high-density, transit-focused cores with connections to lower-density existing uses. By implementing the policies outlined above (some of which are already in place), Metro, East-West Gateway and municipalities served by MetroLink can foster stronger station-area development patterns and TOD.

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Resident of DeBaliviere Place, 10/15/2007

East-West Gateway, 7/25/2007

McCormack Baron Salazar, 8/30/2007

Metro Bi-State Development Agency, 9/24/2007

Orchard Development, 9/24/2007

Pace Properties, 7/24/2007

(Former) St. Louis City Official, 9/14/2007

St. Louis County, 10/15/2007

"Tropicana Site" Representative, 9/25/2007

Washington University in St. Louis, 8/6/2007

9. APPENDICES

Appendix A: List of Agencies Contacted for Interviews

(*Interview Conducted)

Name:	Station:
Developers / Landowners:	
McCormack Baron Salazar*	Forest Park Station
Washington University*	Skinker Station, Big Bend Station
Orchard Development*	Forsyth Station
Pace Development*	Richmond Heights Station
Musick Construction*	Brentwood Station
Dierbergs Groceries	Brentwood Station
MLP Investments	Brentwood Station, Proposed South Hanley Station
Sunnen	Sunnen Station
Government Agencies:	
Metro Saint Louis*	All
East-West Gateway*	All
Citizens for Modern Transit*	All
City of Saint Louis*	Forest Park Station, Skinker Station
City of University City*	Big Bend Station, Forsyth Station
City of Clayton*	Forsyth Station, Clayton Station
City of Richmond Heights*	Richmond Heights Station, Brentwood Station
County of Saint Louis*[176]	All
City of Brentwood*	Brentwood Station
City of Maplewood*	Maplewood Station, Sunnen Station
City of Shrewsbury*	Shrewsbury Station
Former City of Saint Louis*	Policy

[176] Multiple interviewees

Appendix B: Copy of Interview-Soliciting Email to Potential Interviewees

Dear _____,

My name is Cady Scott and I am a Master's Degree student in the Urban Planning and Real Estate Development program in the department of Public Policy at Saint Louis University. For my capstone/thesis, I am conducting a study of transit-oriented development (TOD) in Saint Louis, entitled, "Stationary Station Area Development: Transit Oriented Development in the Saint Louis Region." I hope to show why (and why not) Transit-Oriented Development is being built in the Saint Louis Region.

I would like to arrange an interview with you to discuss your views, projects and outlook on the future of TOD in the Saint Louis region. The interview should take less than one hour (in person or by telephone) and your participation is strictly voluntary.

While I will attribute your responses to your organization or agency, I will not use your name or reference your job title. I will record information via handwritten notes taken during the interviews. I will not make audio tapes or create digital information. The information will be identifiable only in that it will be attributed to your municipality, business or agency but will not be attributed to you either by name or job title so as to limit any potential risk of loss of anonymity.

I will use the research in my capstone/thesis and plan to make the study available to interested people and agencies. The results of this study may be published in scientific research journals or presented at professional conferences. However, your name and identity will not be revealed and your record will remain anonymous. While there is no direct benefit to you, your participation will provide important information about your organization's experience with TOD in the Saint Louis Region. Your participation is voluntary and you may cancel the interview at any time. You may also decline to answer any question at any time.

I look forward to the opportunity to meet with you. Please contact me (information below) if you have any questions or concerns, or to arrange an interview time.

Sincerely,
Cady Scott
Masters' Candidate
Urban Planning and Real Estate Development
Saint Louis University
cady@aya.yale.edu
314-452-4104

Appendix C: Outline for Interviews and Question Types

1. Introductions, present interviewee with contact card for future questions or concerns, explain process of interview, including voluntary nature, anonymity, storing of data, and the interviewees right to decline to answer a question or to cease the interview at any time.
2. Explain nature of study, including other agencies being contacted (especially important if the developer and the municipality for the same project are being contacted).
3. Questions:
    a. Interviewees knowledge of TOD / TAD or Transit-Focused Development – does interviewee support TOD / TAD?
    b. Description of type of development / design of development near transit stations
    c. Were concessions were given to transit station in design and if so, what?
    d. How did the municipality support the design of the development?
    e. Was Metro contacted in the design phase? What role did Metro play?
    f. Were there financial incentives given for development? If so, what?
    g. Were there zoning concessions given for the development? If so, what?
    h. When was development constructed?
    i. Are there any plans to modify development with transit?
4. Thank interviewee, remind interviewee of contact card for future questions or concerns, reiterate voluntary nature, anonymity, storing of data.

Appendix D: Data Sheets on Stations and Developments

STATION NAME: Forest Park / DeBaliviere

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Moderate
Financial Incentives Available	Moderate
Land Acquisition	Moderate
RFQ / RFP	Yes
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Dense
Market	Moderate
Visibility of Station	High

DEVELOPMENT NAME: Metropolis Condominiums (Pre-Existing Neighborhood)

Design Features of TOD

Pedestrian Access	**10**	**Mix of Uses**	**9**
Station within 10 minute walk	1	**Within Development**	**2**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	1
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	1	Commercial	0
Pedestrian connections not through parking lots	1	Retail	0
Pedestrian & Bicycle Friendly	**3**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	1	**Within Station Area**	**7**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**2**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	1
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	1	Market Rate	1
Open space / parks in central location	1	Affordable	1
Parking	**2**	Public	0
Less than minimum parking requirement	1	Commercial	0
Structured Parking	0	Retail	1
Surface parking hidden behind other uses	1	Civic	1
Structured parking shares first floor with other uses	N/A	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Forest Park / DeBaliviere

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Moderate
Financial Incentives Available	Moderate
Land Acquisition	Moderate
RFQ / RFP	Yes
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Dense
Market	Moderate
Visibility of Station	High

DEVELOPMENT NAME: Proposed Development

Design Features of TOD

Pedestrian Access	**10**	**Mix of Uses**	**13**
Station within 10 minute walk	1	**Within Development**	**5**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	1
Traffic signals timed for pedestrians	1	Affordable	1
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	1	Commercial	1
Pedestrian connections not through parking lots	1	Retail	1
Pedestrian & Bicycle Friendly	**3**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	1	**Within Station Area**	**8**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**1**	High Density (Multi-Family)	1
Public space around station	1	Medium Density (Attached Townhouses)	1
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	1
Parking	**3**	Public	0
Less than minimum parking requirement	1	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	N/A	Civic	1
Structured parking shares first floor with other uses	1	Hotel	0
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	0

STATION NAME: Washington University / Skinker

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Moderate
Financial Incentives Available	None
Land Acquisition	None
RFQ / RFP	No
Station Design	Yes
Station Location	No
Other Factors	
Land Availability	None
Current Land Use	Dense
Market	High
Visibility of Station	High

DEVELOPMENT NAME: Administrative Building

Design Features of TOD

Pedestrian Access	**9**	**Mix of Uses**	**8**
Station within 10 minute walk	1	**Within Development**	**3**
Small blocks	0	Residential	
Sidewalks through development	1	High Density (Multi-Family)	0
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	1	Commercial	1
Pedestrian connections not through parking lots	1	Retail	1
Pedestrian & Bicycle Friendly	**3**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	1
Commercial and retail uses visible from station	1	**Within Station Area**	**5**
Drop off zones do not interfere with pedestrians	N/A	Residential	
Public Space	**3**	High Density (Multi-Family)	1
Public space around station	1	Medium Density (Attached Townhouses)	1
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	1	Market Rate	1
Open space / parks in central location	1	Affordable	1
Parking	**3**	Public	0
Less than minimum parking requirement	1	Commercial	0
Structured Parking	0	Retail	0
Surface parking hidden behind other uses	1	Civic	0
Structured parking shares first floor with other uses	N/A	Hotel	0
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	0

STATION NAME: University City / Big Bend

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	No
Station Design	Yes
Station Location	No
Other Factors	
Land Availability	None
Current Land Use	Residential
Market	High
Visibility of Station	High

DEVELOPMENT NAME: Proposed Mixed-Use Building

Design Features of TOD

Pedestrian Access	**9**	**Mix of Uses**	**6**
Station within 10 minute walk	1	**Within Development**	**2**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	N/A	Commercial	0
Pedestrian connections not through parking lots	1	Retail	1
Pedestrian & Bicycle Friendly	**3**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	1	**Within Station Area**	**4**
Drop off zones do not interfere with pedestrians	N/A	Residential	
Public Space	**1**	High Density (Multi-Family)	1
Public space around station	1	Medium Density (Attached Townhouses)	1
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**4**	Public	0
Less than minimum parking requirement	1	Commercial	0
Structured Parking	1	Retail	0
Surface parking hidden behind other uses	1	Civic	0
Structured parking shares first floor with other uses	N/A	Hotel	0
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	0

STATION NAME: Forsyth

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	No
Land Acquisition	No
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Yes
Current Land Use	Mixed
Market	High
Visibility of Station	High

DEVELOPMENT NAME: Trianon

Design Features of TOD

Pedestrian Access	**10**	**Mix of Uses**	**10**
Station within 10 minute walk	1	**Within Development**	**2**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	1	Commercial	0
Pedestrian connections not through parking lots	1	Retail	1
Pedestrian & Bicycle Friendly	**4**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	1	**Within Station Area**	**8**
Drop off zones do not interfere with pedestrians	1	Residential	
Public Space	**1**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	1
Public space in general	1	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**4**	Public	0
Less than minimum parking requirement	1	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	N/A	Civic	0
Structured parking shares first floor with other uses	1	Hotel	1
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	1

STATION NAME: Clayton

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	No
Land Acquisition	No
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Limited
Current Land Use	Mixed
Market	High
Visibility of Station	High

DEVELOPMENT NAME: County Garage

Design Features of TOD

Pedestrian Access	**8**	**Mix of Uses**	**4**
Station within 10 minute walk	1	**Within Development**	**1**
Small blocks	1	Residential	
Sidewalks through development	0	High Density (Multi-Family)	0
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	1	Commercial	0
Pedestrian connections not through parking lots	1	Retail	0
Pedestrian & Bicycle Friendly	**1**	Civic	1
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**1**	Public	0
Less than minimum parking requirement	0	Commercial	1
Structured Parking	1	Retail	0
Surface parking hidden behind other uses	0	Civic	1
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Richmond Heights

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	Yes
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Mixed
Market	High
Visibility of Station	High

DEVELOPMENT NAME: The Boulevard

Design Features of TOD

Pedestrian Access	**4**	**Mix of Uses**	**12**
Station within 10 minute walk	1	**Within Development**	**5**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	1
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	1
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**2**	Civic	0
Traffic calming on interior streets	1	Hotel	1
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**7**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**5**	Public	0
Less than minimum parking requirement	1	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	1	Civic	0
Structured parking shares first floor with other uses	1	Hotel	1
Shared parking	1	Entertainment	1
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Richmond Heights

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	Yes
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Mixed
Market	High
Visibility of Station	High

DEVELOPMENT NAME: The Fountains

Design Features of TOD

Pedestrian Access	**5**	**Mix of Uses**	**10**
Station within 10 minute walk	1	**Within Development**	**3**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	1
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**1**	Civic	0
Traffic calming on interior streets	0	Hotel	1
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**7**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**3**	Public	0
Less than minimum parking requirement	0	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	1	Civic	0
Structured parking shares first floor with other uses	1	Hotel	1
Shared parking	0	Entertainment	1
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Richmond Heights

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	Yes
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Mixed
Market	High
Visibility of Station	High

DEVELOPMENT NAME: The"Tropicana" Development

Design Features of TOD

Pedestrian Access	**10**	**Mix of Uses**	**11**
Station within 10 minute walk	1	**Within Development**	**3**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	0
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	1	Market Rate	0
Traffic signals timed for pedestrians	1	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	1	Commercial	1
Pedestrian connections not through parking lots	1	Retail	1
Pedestrian & Bicycle Friendly	**4**	Civic	0
Traffic calming on interior streets	1	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	1
Commercial and retail uses visible from station	1	**Within Station Area**	**8**
Drop off zones do not interfere with pedestrians	1	Residential	
Public Space	**1**	High Density (Multi-Family)	1
Public space around station	1	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**5**	Public	0
Less than minimum parking requirement	1	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	1	Civic	0
Structured parking shares first floor with other uses	1	Hotel	1
Shared parking	1	Entertainment	1
Higher-Density at Core / Around Station	**1**	Other	1

STATION NAME: Brentwood

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Retail
Market	High
Visibility of Station	Medium

DEVELOPMENT NAME: The Meridian

Design Features of TOD

Pedestrian Access	**4**	**Mix of Uses**	**6**
Station within 10 minute walk	1	**Within Development**	**3**
Small blocks	0	Residential	
Sidewalks through development	1	High Density (Multi-Family)	0
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	1
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**3**	Civic	1
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	1	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	1	Residential	
Public Space	**1**	High Density (Multi-Family)	1
Public space around station	1	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	1
Open space / parks in central location	0	Affordable	0
Parking	**4**	Public	0
Less than minimum parking requirement	1	Commercial	0
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	0	Civic	0
Structured parking shares first floor with other uses	1	Hotel	0
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	0

STATION NAME: Brentwood

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Retail
Market	High
Visibility of Station	Medium

DEVELOPMENT NAME: Hanley Station

Design Features of TOD

Pedestrian Access	**5**	**Mix of Uses**	**7**
Station within 10 minute walk	1	**Within Development**	**4**
Small blocks	1	Residential	
Sidewalks through development	1	High Density (Multi-Family)	1
Sidewalks connect clearly to station	1	Medium Density (Attached Townhouses)	0
Crosswalks	1	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	1
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	0
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**3**	Civic	0
Traffic calming on interior streets	1	Hotel	1
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	1	Residential	
Public Space	**1**	High Density (Multi-Family)	0
Public space around station	1	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**5**	Public	0
Less than minimum parking requirement	1	Commercial	1
Structured Parking	1	Retail	1
Surface parking hidden behind other uses	1	Civic	1
Structured parking shares first floor with other uses	1	Hotel	0
Shared parking	1	Entertainment	0
Higher-Density at Core / Around Station	**1**	Other	0

STATION NAME: Brentwood

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Retail
Market	High
Visibility of Station	Medium

DEVELOPMENT NAME: Dierberg's Brentwood Pointe

Design Features of TOD

Pedestrian Access	**1**	**Mix of Uses**	**4**
Station within 10 minute walk	1	**Within Development**	**1**
Small blocks	0	Residential	
Sidewalks through development	0	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	0
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**1**	Civic	0
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	0
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**0**	Public	0
Less than minimum parking requirement	0	Commercial	1
Structured Parking	0	Retail	1
Surface parking hidden behind other uses	0	Civic	1
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Brentwood

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	Yes
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Retail
Market	High
Visibility of Station	Medium

DEVELOPMENT NAME: The Brentwood Promenade

Design Features of TOD

Pedestrian Access	**1**	**Mix of Uses**	**4**
Station within 10 minute walk	1	**Within Development**	**1**
Small blocks	0	Residential	
Sidewalks through development	0	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	0
Pedestrian connections not through parking lots	0	Retail	1
Pedestrian & Bicycle Friendly	**1**	Civic	0
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	0
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**0**	Public	0
Less than minimum parking requirement	0	Commercial	1
Structured Parking	0	Retail	1
Surface parking hidden behind other uses	0	Civic	1
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Maplewood / Manchester

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Moderate
Financial Incentives Available	Yes
Land Acquisition	No
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Commercial
Market	Medium
Visibility of Station	High

DEVELOPMENT NAME: NONE PLANNED

Design Features of TOD

Pedestrian Access	**0**	**Mix of Uses**	**0**
Station within 10 minute walk	0	**Within Development**	**0**
Small blocks	0	Residential	
Sidewalks through development	0	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	0
Pedestrian connections not through parking lots	0	Retail	0
Pedestrian & Bicycle Friendly	**0**	Civic	0
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	0	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**0**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	0
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**0**	Public	0
Less than minimum parking requirement	0	Commercial	0
Structured Parking	0	Retail	0
Surface parking hidden behind other uses	0	Civic	0
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Sunnen

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Moderate
Financial Incentives Available	Yes
Land Acquisition	No
RFQ / RFP	No
Station Design	No
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Commercial
Market	Medium
Visibility of Station	Low

DEVELOPMENT NAME: Sunnen Business Park

Design Features of TOD

Pedestrian Access	**4**	**Mix of Uses**	**4**
Station within 10 minute walk	1	**Within Development**	**1**
Small blocks	0	Residential	
Sidewalks through development	1	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	1	Public	0
Pedestrian connections to adjacent developments	0	Commercial	1
Pedestrian connections not through parking lots	1	Retail	0
Pedestrian & Bicycle Friendly	**1**	Civic	0
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	1	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**3**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	1
Public space around station	0	Medium Density (Attached Townhouses)	1
Public space in general	0	Low Density (Single-Family)	1
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**0**	Public	0
Less than minimum parking requirement	0	Commercial	0
Structured Parking	0	Retail	0
Surface parking hidden behind other uses	0	Civic	0
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0

STATION NAME: Shrewsbury

Station-Area Factors

Governmental / Agency Support	
TOD-Supportive Zoning	Strong
Financial Incentives Available	Yes
Land Acquisition	No
RFQ / RFP	Yes
Station Design	Yes
Station Location	No
Other Factors	
Land Availability	Somewhat
Current Land Use	Residential
Market	Medium
Visibility of Station	Medium

DEVELOPMENT NAME: NONE PLANNED

Design Features of TOD

Pedestrian Access	**0**	**Mix of Uses**	**0**
Station within 10 minute walk	0	**Within Development**	**0**
Small blocks	0	Residential	
Sidewalks through development	0	High Density (Multi-Family)	0
Sidewalks connect clearly to station	0	Medium Density (Attached Townhouses)	0
Crosswalks	0	Low Density (Single-Family)	0
Crosswalks w/ stop signs / signals	0	Market Rate	0
Traffic signals timed for pedestrians	0	Affordable	0
Pedestrian connections to low-density residential	0	Public	0
Pedestrian connections to adjacent developments	0	Commercial	0
Pedestrian connections not through parking lots	0	Retail	0
Pedestrian & Bicycle Friendly	**0**	Civic	0
Traffic calming on interior streets	0	Hotel	0
Bicycle racks at station	0	Entertainment	0
Bicycle lanes in streets	0	Other	0
Commercial and retail uses visible from station	0	**Within Station Area**	**0**
Drop off zones do not interfere with pedestrians	0	Residential	
Public Space	**0**	High Density (Multi-Family)	0
Public space around station	0	Medium Density (Attached Townhouses)	0
Public space in general	0	Low Density (Single-Family)	0
Open space / parks	0	Market Rate	0
Open space / parks in central location	0	Affordable	0
Parking	**0**	Public	0
Less than minimum parking requirement	0	Commercial	0
Structured Parking	0	Retail	0
Surface parking hidden behind other uses	0	Civic	0
Structured parking shares first floor with other uses	0	Hotel	0
Shared parking	0	Entertainment	0
Higher-Density at Core / Around Station	**0**	Other	0