

Transit Oriented Economic Development for Rust Belt American Cities

by

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Abstract

Many American industrial, or “Rust Belt” cities in states such as Michigan, Ohio, and Pennsylvania have struggled to keep their economies competitive after the decline of manufacturing in the United States. Many economic development strategies for the region involve the potential use of modern transit systems to help restore life to city centers. This paper looks to discover ways we can learn from the past and current transit strategies in order to see how they can be applied in ways that will work to encourage economic growth in this region. Multiple modes and executions of transit systems as well as other economic factors will be studied in order to make recommendations on how Rust Belt cities can successfully build transit systems and create an economic environment that will foster their success. The use of heavy rail, light rail, bus, and other public transit modes will be examined to see where they best fit into these cities. Strategies for how they can enhance the strengths of the city as well as provide revitalization to dilapidated areas will also be explored. Recommendations and guidelines for evaluation will also be given.

Keywords: Transit Oriented Development (TOD), Economic Development, Industrial, Midwest cities.

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Transit Oriented Economic Development for Rust Belt American Cities

As planners, it is not simply the task at hand to look at the problems of the day and find solutions for them. We must be able to look into the future, and see what the world will look like in 10, 15, or 50 years from now. As many of the world's cities and countries face an uncertain economic future, we must try to find what is necessary for the needs of tomorrow. Currently, over half of the world's population lives in urban areas, and that number is expected to grow 75% by the year 2050 (Hustwit, 2011). Cities worldwide are increasing in population, and with that planners must be focused on the movement of people from place to place. That challenge continues to grow as the new generation of young "Millennials" are rejecting the dreams of their parents of two cars in every garage and a nice, quiet house in the suburbs. Today, more and more young adults are moving back into city centers, getting their drivers licenses later in life (if at all), and if they do, they are driving much less (Lowy, 2012).

While some cities will continue to grow, others struggle to form a new identity in modern time. 20th century America saw the rise of cities that became the showcases for the industrial revolution and throughout the Midwest people flocked there for work and opportunity. Today, many of the places that were once the industrial capitals of middle America are shadows of their former selves, existing in a part of the world now called the "Rust Belt".

The term "Rust Belt" was first used in 1983, and is defined by Merriam-Webster as: "the northeastern and midwestern states of the United States in which heavy industry has declined —called also *rust bowl*" (2008). In comparing Detroit, MI with Rochester, NY Roberta Gratz notes that while the economies were once more diversified, many of

them became company towns dominated by not just single industry, but a single company (or short list of companies) as well (2012). Even Detroit who was once home to a slew of domestic automakers, slowly watched all but three shut their doors permanently. Their unwillingness and inability to diversify their economies meant that once their industrial flame went out, there would be nothing to keep these places vibrant and attractive. In their wake, the companies who went out of business, slowed their production to a crawl, or moved on to other locations left behind old factories, water towers and railroad yards that have fallen into disrepair and have rusted away – creating the Rust Belt of the United States.

For the purposes of this paper I will define Rust Belt cities as: Parts of the United States that relied heavily on manufacturing as a means of economic growth during the 20th century and no longer have the manufacturing strength that they once did. Typically located in the Midwest, but it may include parts of northeastern. Cities in the Rust Belt may exhibit the following characteristics: loss of population, loss of industry, decline of tax base, antiquated infrastructure, declining GDP, and loss of quality housing stock. Examples of cities in the rust belt include, but are not limited to: Duluth, Springfield, St. Louis, Gary, Detroit, Flint, Cleveland, Pittsburgh, Buffalo, Chicago, Indianapolis, Cincinnati, and Milwaukee. The degree of which these cities have been able to adjust to their industrial decline varies from place to place, with some doing very well and others struggling to survive.

Many cities, Rust Belt and otherwise, are at the point where they need to make many decisions regarding the way the next generation will get from one place to another. While many Rust Belt cities are losing population (Associated Press, 2010), there is still

the prospect of replacing aging infrastructure with transit that will better serve future populations. In order for transit systems to be successful, they must not only be efficient in increasing the mobility of the citizens, but also allow for transit-oriented development (TOD) that properly compliments the system and maximizes its usage.

In its simplest form, TOD is development that is built near a transit stop with the transit stop in mind in order to form a sense of place and social cohesion. This is in contrast to a transit-adjacent development, which is a development built near a transit stop but does not consider the transit stop in the overall plan in a way that is mutually beneficial to both the transit line and the development (Halbur, 2007). While many attempt to define TOD in a specific form regarding density, walkability, and a mix of uses (Dittmar & Ohland, 2004), definitions with specificity of this level can never be completely accurate. TOD can be an array of many different things in many different forms, and what works for TOD in once place may end up being a disaster when implemented verbatim in other places. If the transit system and existing social structure is not properly considered, a TOD in once city could be a TAD in another.

TOD can also refer to the housing market around transit stations, the commerce around transit stations, and the overall activity of the people who live, work, and play there. For the purposes of this paper, commerce and economic development will be the focus. When referring to TOD, it will be only the economic/business side of development and not the housing or residential side of development. Instead of working a list of features into the definition of TOD, the definition of “development that is built alongside a transit stop with the transit stop in mind” provides a solid foundation to add practices and principles that make the difference between whether a TOD is successful or not.

Transit Oriented Development is all about finding the right formula that fits for each individual city, and there is no “one size fits” all solution for TOD. Cities within the Rust Belt are at an inherit disadvantage when it comes to TOD, many of them have little transit aside from the typical city bus service. When it comes to case studies, the vast majority of TOD research has been done in places that have strong regional transit systems, of which very few exist in the Rust Belt. They focus domestically on transit systems such as The San Francisco Bay Area Rapid Transit (BART), The Metropolitan Atlanta Rapid Transit Authority (MARTA), The Washington Metropolitan Area Transit Authority (WMATA or DC Metro), none of which are very comparable to the urban situations in Rust Belt cities. Globally, we see many studies on places like London, Seoul, Toyko, Berlin, etc. being the focus of study.

As a result, public administrators in the Rust Belt are left with a tremendous amount of information that in a great deal of cases will not apply to their transit goals. Even in places such as California where there is a great deal more support for rail and TOD projects as a whole, there are still issues of TOD not living up to expectations. In an article titled *Density Dare*, John King speaks of the four-county BART system’s Fruitvale Village stop in Oakland with the following remarks:

“This is where changes around BART stations rarely match the rosy future promised by TOD advocates – that the blend of mixed use buildings, higher density levels, and mass transit in turn generates lively multilayered neighborhoods...even as accolades rolled in, many of the initial retailers went out of business...the optimistic plans didn’t pay enough attention to the exact location. (King, 2012)”

Planners and decision makers need to look on and hope to learn from the mistakes individuals made when so much was in place and supported. If planners have gone through such lengths, are experienced in TOD projects, have the funding and support to make it happen and the project is still not successful, how can we practically apply this model to cities which are struggling to find a new identity? The aim of this paper is to see what lessons we can learn from TOD projects and how we can make them work for cities in the Rust Belt.

In many ways a key component of the growth of Rust Belt cities was the production of the automobile, particularly in Michigan. As a result, many cities developed auto-centric designs that have neither worked well for the automobile or the transit commuter. Pittsburgh's east-west Penn Lincoln Parkway for example, is the 9th most "reliably unreliable" interstate corridor in the country (Texas Transportation Institute, 2011), while their commuter transit line only serves the commuters to the south. Even Pittsburgh's situation is better than the failed \$6 million subway project in Cincinnati (Singer, 2003), or Detroit who was never able to properly secure funding for a rail system, a problem they struggle with to this day. These auto-centric designs have led to congestion issues and mobility issues, which will only get worse as time goes on (Hustwit, 2011) assuming that populations continue to increase. With virtually all Rust Belt cities going through populations decline, the traffic congestion of the 20th century no longer exists. Instead, we have a situation where there is more road infrastructure than is needed, and local governments must now consider that repairing roads may not be worth the cost, especially if they can make for a better transit system. In many ways, we can

look to the past and see what transit looked like before the automobile to give us insight into how we can find solutions for future transit and TODs.

TOD has existed in the United States in some way, shape or form for much longer than society tends to give it credit for. As long as there have been means of moving people from one part of the country to another, there has been development along the way to support travelers, surveyors, explorers, entrepreneurs, and people who are looking for a new life. This goes back to the 1850's, when the United States would aide railroad development by granting public land along rail lines to corporations for free in hopes that it would be developed (Russo, 2001). The Illinois Central Railroad became the first railroad to innovate on the concept of railroad company towns and develop towns further down the line with a large enough "catchment area", where enough farmers and settlers would need a service center somewhere they could easily get to. This was the first attempt to use TOD as a venue for filling the economic needs of a local community. When people talk about modern day transit villages being "economically viable and self sustaining...with transit access to the rest of the region" (Bernick & Cervero, 1997), what we are doing is at the core very similar to what we were doing over 150 years ago. Transit Oriented Development is an American tradition.

Benefits of Transit Oriented Development

If done correctly and done well, TOD can have many benefits for the community. On the surface there are many benefits that are immediately visible once the development is successful. Mixed-use structures encourage people to shop near where they live, and by utilizing the transit system and relying on pedestrian or bicycle traffic for other commuting needs, the people get the added health benefits of the inherent walkability. The idea for businesses is that when you compete standalone for only vehicle traffic, you need to have a strong enough reputation to convince people to get in their cars and drive to your specific location or be located near an anchor which will provide enough spillover customer activity in order to stay in business. However with TOD, the customers are brought right to you. It is much more of a hassle for a transit rider to hop back on the train or bus and head to another destination than it is with vehicle traffic. In turn, this encourages people to do more of their commuting needs in as few transit stops as possible. By consolidating needed resources and leisure items by putting them in TODs, you can create places where people will not only need to visit out of obligation, but also as a place to spend their leisure. Jane Jacobs said “Districts have to help bring the resources of a city down to where they are needed by street neighborhoods...not only for its own residents but for other users, workers, customers visitors – from the city as a whole” (1961). By striving to make this the goal of TODs, residents of American industrial cities will see immediate benefits.

A big issue with American highways is that they often lower the value of adjacent property. People have voted with their mortgages and said that they want to be close to a freeway, just not directly next to it. Transit systems, however, have been seen to

consistently (although not always) raise the property values of adjacent properties (Cervero & Landis, 1993). There is no universally agreed on formula to determine how much property values can expect to rise, those will have to be determined locally in the projections made by the municipality or transit authority. We do, however, have some examples to consider. The city of Charlotte, North Carolina tracked the sale price per foot for single-family housing, condominiums, and commercial. When compared to control and other neighborhoods, the properties in approximation to the new south line had all outpaced the other neighborhoods in terms of increase of value. The prices per square foot were recorded before the line was announced, and after the line was announced. The results were simply astounding: single-family housing increased by 60.2%, condominiums by 152.8%, and commercial properties increased by 365.4% (Billings, 2011). It is worth noting that the data does not go past 2008, so the collapse of the real estate market is not represented in these figures and they may across the board be artificially inflated; we may not expect to see increases that high in the future. However, the amount that the property value has increased is not nearly as important as the percentage in which it has outpaced the other properties that are not located near a transit line, assuming that the property value increase is enough to justify the TOD in the first place.

After the real estate market took a turn for the worse, many municipalities witnessed their local property tax bases decrease substantially. While markets all over the country took a hit, Rust Belt areas were particularly hard hit. Cities with a perceived higher intrinsic value were in a great position to weather the storm; however places that seemed like the cities of yesterday and not tomorrow were the first to feel the effects, and

will be the last as the rest of the country rebounds and they slowly pull themselves up from their bootstraps.

Cities are looking to think outside of the box in order to increase property values. This is essential, as falling values and more vacant housing means simply that there isn't enough money coming into the municipality to keep the government services working without drastic cutbacks like Milwaukee had to do to their bus service in 2011 (Alden, 2011). Economic downturn in the Rust Belt has been more severe than the rest of the nation, so the cost of providing services has increased while the amount of revenue coming in has decreased. The question is simple: how do you raise the taxable value of property in the city without simply raising millage rates?

Part of the answer can be in TOD, with an area that is designed properly as a magnet to attract people. Any increase in property values will be noticed, and having a handful of well designed TOD nodes on a transit system can serve as centers of commerce, trade, street life, and others. Property values are in many ways a representation of how we mobilize ourselves as society: the more people want to be someplace, the more that place is worth. Of course this is not a complete picture of how property is assessed and taxed, but in a simple form we can easily make the correlation. Data shows us that the property value increase can be up to 30% for those which are very close to TODs, with the number tapering off the farther you get away from the TOD until you can no longer consider the TOD a factor in property values (Renne, Curtis, & Bertolini, 2009).

Another benefit of giving people multiple options for commerce and leisure is that the TOD will not only support the neighborhood in which it is located, but potentially all the transit riders who use that line or bus route. It gives people a reason to want to get on

the train and go find somewhere they want or need to go. In a report done in 2004 indicates that in California, we saw an increase in people who took transit to work if they lived near a TOD, in fact 25% of those living near the TOD were taking transit for their daily commute (Lund, Cervero, & Willson, 2004). Rust Belt transit systems will not expect a number nearly that high, at least not right away and should not expect such promising statistics.

Data shows that older and redeveloping regions such as the Rust Belt do not see the transit ridership increase for jobs in data collected from 1970 – 2000. In fact when compared to maturing heavy rail areas such as Washington DC or “new start” light rail areas such as Salt Lake City, the redeveloping regions did downright poorly. There are many reasons for this, including the amount of attention given or not given to the TODs and the overall transit system in general, but the facts remain: ridership across developing regions has decreased for work trips (Renne, 2005). The silver lining here is that the areas with a TOD didn't suffer the amount of ridership decline that the areas without the TOD suffered, and the study did not take into account the amount of people who are using the transit system for rides other than their work commute. The decline in the older and redeveloping regions was -17% for TOD areas, and -37% for the rest of the MSA. Redeveloping regions were the only ones who saw a decline in both areas, while the rest of the country saw a decline only in areas without a TOD. This is a harsh reminder for all areas, especially those in automobile dominated cultures or those who are slow to grow economically, that TOD and transit in general is far from a magical solution to mobility, and if you simply build it they will not come.

The other numbers in the report however, are positive. On one hand, we can say that transit ridership is down and will continue to do so. There is a better approach, and that approach comes from recognizing the strengths of your community and building complimentary TODs and transit systems that will truly meet the needs of the community. Regardless of the ridership, TODs still prove a stronger point than the rest of the transit system. Very encouraging are the numbers from the newer light rail regions, which may be a viable option for Rust Belt areas moving forward. It is also worth noting that there are numerous studies which suggest TODs do increase ridership numbers over time, with some suggesting that they can increase anywhere between 20% and 40% (Cura, 2003).

Decreasing the amount of traffic congestion is also a big draw for people who want not just transit, but TOD to encourage people to ride the transit. In many cases, transit systems are offered along with increasing freeway size in order to address the single issue of traffic congestion. As previously mentioned, Pittsburgh has a large issue with their unstable highways and a transit system to compliment it. The same study also shows Chicago having some of the most congested traffic corridors in the country (Texas Transportation Institute, 2011). The two big factors that help to increase transit ridership are the traffic being in such bad shape, and the cost of parking being at a market rate which is high enough for the parking entrepreneurs to make money, but not low enough for most people to want to afford it. While there is no formula that can be applied universally saying that a certain amount of traffic congestion will lead to an increase in TOD ridership, there are three things we can point to as being strong draws for TOD corridors in relation to traffic congestion.

People will make the direct comparison between the travel times on the transit system against the travel time along the same route via an automobile. Even with a 10-minute walk each way to the station, the transit commute may be a great savings in time over sitting in stop-and-go-traffic. This means that even a newer transit system that is not rapid transit may see an initial uptick in ridership if the roads are still by comparison a less pleasurable commute. There is a general consensus that 10-minute service headways are what is needed to support a full transit lifestyle (Arrington & Cervero, 2008), a goal which is partially achieved through mixed use development allowing people to live close to the TOD.

In making that direct comparison, it's not just the commute time, but if there is an easily seen, direct comparison between the transit line and the traffic. Humans are visual creatures, and it does not matter what kind of statistics you can pull off to discuss differences in travel times if the better option is watching transit move quickly while traffic in turn moves slowly. Anyone who has ever been on the freeway in Chicago during rush hour and seen a blue line train fly down the tracks while hoping traffic picks up soon will agree that it makes for a solid message that transit should be a considerable option.

However the biggest deterrent to TOD success is also the biggest thing that creates the traffic congestion: rush hour. Merriam-Webster defines rush hour as “a period of the day when the demands especially of traffic or business are at a peak” (2008), which usually means that people are travelling to and from work. If we review the data from Renne (2005), we remember that this dealt with travel to and from work for the utilization of TODs. We cannot make a complete comparison without viewing overall

transit ridership, however in order for TODs to be successful in eliminating traffic congestion there must be places of employment along the transit line (Arrington & Cevero, 2008). Leisure and weekend journeys are great, but until citizens of Rust Belt cities see transit as a viable option to get to and from work, promises of using transit and TOD to rid cities of congestion are moot points.

The nice part about TOD from a business perspective is that as a business within the TOD, you get the added benefit of people who are already walking in close proximity to your business. This provides tremendous opportunities for urban retailers to reach out to a new group of consumers. They do not have to entice them to plan a trip directly to their location or hope that a sidewalk advertisement will get them to pull into the parking lot. Instead, assuming that the municipality can actually get the transit lines in a place where they can be used for a work commute, potential retailers and service providers in the TOD are getting a built-in block of potential customers. While driving commuters are cutting down on the number of trips needed in the wake of higher gas prices (White, 2012), transit commuters have known for as long as there has been transit that the more you can do at a single transit stop, the more time you will save.

The opportunities are tremendous for a new TOD to attract and keep new businesses who will be able to take advantage of this potential customer base. The country leads the world in the amount of gross leasable area of retail space per capita at 20.22 (Integra Realty Resources, 2007), more so than any other nation on the planet. That means that there is a tremendous amount of retail space available for lease. The positive aspects of the TOD should provide opportunity not only for established national retailers, but local businesses looking to find a steady stream of neighborhood customers.

Increased retail activity does a great deal for the municipality as well, even if people are not interested in the transit aspect of the TOD, there is still the opportunity to attract people who are interested in the development on its own merits. This is all about increased return on investment, if a city can do a TOD well, the businesses have a better chance of success and will generate more taxable revenue for the city and the state and the businesses have customers that are much harder to lose since they are taking that commute regardless of whether or not they are interested in retail. Considering that it costs a retailer five times as much to attract a new customer as it does to keep an old one happy (Dunne, Lusch, & Carver, 2011), a well-built TOD will benefit the shopping experiences of the city, the citizens, and the business owners alike.

Transit Oriented Development for Place-making

What can really make TOD special is not the convenience or nostalgia of taking a train, it is the ability to create a true place for people to interact and carry on a less serious demeanor. Sociology Professor Emeritus Ray Oldenburg of The University of West Florida has dubbed these places “third places”. The “first place” being the home, and respectfully the “second place” is the place of employment. However these places are obligations, at least for those who are not homeless and are part of the workforce, which people are generally bound to. You need shelter, and you need to make a living in order to keep that shelter and survive. But even at a full time 40-hour work week and sleeping a solid 8 hours per day, there is still 1/3rd of a person’s day for which they can spend however they choose. There are of course other obligations as well, but when the shopping is done and the day’s commute is over, people are faced with a choice: what do I do with myself?

Third places are the places that give life the extra enjoyment; they are the places where we choose to spend our ever-so-precious free time. They are portrayed in the media in a way that many Americans are familiar with, such as the once popular sitcom *Cheers* that features a group of friends in Boston who all frequent a local bar. This is just one example of community-based places where people spend to choose their time.

Oldenburg says of third places:

“Life without community has produced, for many, a life style consisting mainly of a home-to-work-and-back-again shuttle. Social well-being and psychological health depend upon community. It is no coincidence that the ‘helping professions’ became a major industry in the United States as suburban planning helped destroy

local public life and the community support it once lent.” (Project for Public Spaces, 2012)

People like local areas that they can feel attached to, a key component that the social interaction that Oldenburg feels that we are missing from society overall today. The suburban life that we have coveted as “the American dream” has in reality pushed us farther and farther apart from each other. As a result, we are losing the aspects that make a healthy community.

TOD has many elements that compliment real place making, with the higher density, increased walkability, and built in social interaction, TODs are third places waiting to happen. Many people who are repopulating urban areas are younger Millennials who are looking to escape the suburban lifestyle of their parents. No municipality should expect them to see transit stations surrounded by developments that are perceived to be ugly and out of date and be excited to hop on your transit system to get there. This is especially true of Rust Belt cities, where people take a special kind of pride in their cities, and people will not respond well to textbook new(sub)urbanism as a proper third place.

What takes the TOD from a house to a home is the little things that people can look at and be a part of. When the Crossroads shopping center in Lake Forest Park, WA underwent renovation, they had a large chess set made of pieces up to 28 inches high to be played on an eight foot chessboard (Oldenburg, 2001). While it sounds like a gimmick, it worked, and as part of the revitalization of the commercial space Crossroads became a local hangout for chess enthusiasts, as well as others who were interested in witnessing

the spectacle in the first place. This is one example that we can take from a competitive arena, shopping mall retail, and apply it to TOD to give it a personal touch.

When someone lays eyes on a TOD in the Rust Belt, they should see a sign that things in their city are improving, it should be a message the good things are coming and that there are others that want to be a part of it. When reviewing a site plan, if you are unable to see what makes your TOD special and makes people feel good about your city, then it is time to go and find some revisions.

Historian Donald Olsen said that “If we are to achieve an urban renaissance, it is the nineteenth century which will be reborn”, not the 20th century (Ehrenhal, 2012). The commons and social interaction prior to the industrial revolution are what will lead us to a place where we can improve public health, dialogue amongst our peers, and maybe one day a world where people do not count friends based on computerized social networks.

Parisian critic Alfred Delvau in his 1862 work *Les dessous de Paris* exclaimed that:

“we find it tiresome to live and die at home...we require public display, big events, the street, the cabaret, to witness us for better or for worse...we like to pose, to put on a show, to have an audience, a gallery, witnesses to our life”
(Delvau, 1862).

As it turns out, Delvau remains correct about our perceptions about public life to this day.

While today’s Rust Belt cities are a far cry from the world of 19th century Paris where housing was poor and street life did not have to compete with 4G internet speeds anywhere you go, it does mimic the way that people act today with their desire to perform in front of an audience. The place of wide boulevards and plazas with the hustle and bustle became a place where any visitor could sit back and take in the human drama

at their own pace (Ehrenhal, 2012). To anyone who believes that people have taken to a suburban lifestyle in order to hide from others and avoid social interaction, I offer the simple fact that online photograph sharing service Instagram which only started in 2012 has well over 50 million users (this is in addition to the millions of users on sites that promote photo sharing, such as Facebook, TwitPic, Tumblr, or Flickr.), and is adding 5 million per week (Taylor, C., 2012) as people readily look for new and exciting ways to put their whole lives on display for the entire world. TOD facilitates all of this by strengthening communities and creating people who live, work, play, and ride in the same spaces.

Fortunately, people have realized the importance of getting together and staying together for quite some time. It is suggested that Paleolithic hunters and Neolithic settlers created the precursor to the city by choosing to stay in the same territory and learn the ways of their neighbors (Mumford, 1961). If these indeed were the first settlers, than the idea of congregating with other people has existed for over 12,000 years. Denying them their instinct seems almost cruel.

By studying their patterns of movement, we can see where these people like to congregate. We have already established that TODs will work best when they are placed near employment and residences, but there is another element to where transit goes that will help to determine its success: the third places, places of culture, and the already existing assets that the city possesses. It will be very difficult to gain the support of the people, the stakeholders, and the politicians that a new TOD in an area with little or no existing activity.

For Rust Belt cities, the challenge is finding where those pockets of activity are. With many places having high vacancy rates and a spread out population, the low density often makes it difficult to determine where the activity is. This is where the public's voice comes into play. The public participation process is vital for any TOD to be a success; finding out the needs of the community cannot be met from the position of an ivory tower but from the bottom up. Adding an oversized chess set like Crossroads or putting guitar art all over your TOD (Cleveland does this with their entertainment district) is a great start, but properly accessing the needs of the community will help bring form and function together. The benefits for doing this are both short and long term. In the short term, it will give the people a voice and allow the TOD project to have a better chance of success. It will let the people assist the transit authority in seeing where people really want to go and where they feel a TOD would be most needed. In the long term, you give other people in your city reason to trust the governing authority, and can help build trust over a long period of time so that the populous does not get taken advantage of.

Methods for doing so can be as elaborate as multiple town hall meetings and charrettes, or as simple as taking a vacant structure in the proposed TOD and putting "I wish this was" stickers on it in the form similar to the "High, my name is" nametags so people passing by can quickly and easily add their input as to what they feel the property could be turned into (Hustwit, 2011). Citizen participation becomes even more important when we stop and think about the numbers involved. New York city is currently undergoing four very large subway expansion projects, to the tune of \$15.2 billion (Marshall, 2012). When such large amounts of money are at stake, people deserve their voices heard to make sure it is being spent wisely.

Capitalizing on existing districts to bring transit to is also very important, and in some cases may not even require TOD if aspects other than transit are already drawing in clusters of people. Places to consider are shopping or entertainment districts, clusters of concert arenas and sporting venues, cultural interests and museums, and whatever else a Rust Belt city may have to offer. This is where cities must take a look at both the existing density of the area and the use of the anchor where the TOD is being considered. For example, a transit line in Toledo going to Fifth Third Field for baseball games would work, as it is also serviceable to other nearby areas. In this case, additional TOD may play a role in being supportive of the existing facilities that people already enjoy. In Chicago, TOD around stadiums and cultural institutions may not be necessary, as development has occurred organically, with these institutions acting as anchors. In this case a transit node would suffice. In Detroit, a transit line to a downtown stadium could warrant TOD, but a line out to a suburban basketball stadium in Auburn Hills would be impractical and only useful when the stadium is in use. In such a case, a transit line would be a poor public investment without other plans for not just a proposed TOD, but other neighboring areas and density increasing policies.

For potential transit routes and stops, there are many instances where existing development is already so strong TOD is not necessary. These are places that may exhibit high density, mixed uses, and public space and a transit stop, or node, may be all that is required. People have already come to the area and it has flourished, regardless of what happens with transit lines. Nodes are appropriate in for stops along a transit line that are already built up, or will not be built up. For example, a line that goes to an industrial area to primarily only service the workers commuting to and from work would not get

additional ridership as a result of TOD or place-making strategies. Nodes also work well for bus transit systems where the number of people expected to get on and off the bus are lower.

Retail Strategies for Transit Oriented Development

Retail is a cornerstone of TOD success, as these market-based forces are what will drive people to actively generate economic activity. In order for an economic system to be successful it must attract people who are willing to spend their leisure time as well as their available spending dollars in your TOD. A mix of retail shops, boutiques, well known retailers, small business startups, and street vendors are all important factors in creating a pedestrian friendly outdoor retail environment.

Many American retailers abandoned the idea of developing in the inner city when sprawl was quickly becoming the driving factor in housing settlement patterns. The logic is not difficult to follow; you go where your customers go. While many cities around the country have kept a strong retail core, Chicago is the only Rust Belt city to make strides in providing a shopping environment that is a true retail district, with other cities in the region scrambling to convince retailers that their cities are safe, and that there is a profit to be made.

Fortunately, retailers are starting to come around to the idea of urban retail. In May 2012, retailer Whole Foods broke ground in Detroit (Gallagher, 2012) looking to capture the market of new and existing urban dwellers as well as commuters. Retailers that are willing to take this step are important partners to consider when looking for the anchor institutions that will allow your TOD to attract other businesses. A local butcher may be hesitant to move into a TOD until he sees that a retailer with bigger name recognition is willing to make the investment. This is especially true for Rust Belt retailers who are local shop owners and have struggled to stay afloat during the recession. Re-location subsidies for local businesses may need to be an option.

Whole Foods however, may not be the best-suited anchor for a TOD in the form in which we as consumers have become accustomed to shopping at: the large building with a sprawling parking lot surrounded by dense development. If such a store is to exist within a TOD, it needs to consume less land, less square footage, and carry a limited portion of their typical suburban store holdings. Already sensing opportunity in this realm, some retailers are proving that they are ripe for TOD by creating small concept stores for urban markets. Wal-Mart is experimenting with their “Neighborhood Market” concept, and Target, Best Buy and others are working on similar smaller store concepts to fit within land parcels in urban areas (Misonzhnik, 2011).

This benefits the taxpayers, name brand retailers, the small business owners, and the customers all benefit from this arrangement. The smaller building means less property tax than if you were to take a suburban Target store and stick it in downtown Cincinnati, and a slimmed down inventory means a smaller amount of product depth and employees who are more knowledgeable of the existing inventory. The small business owners are likely to be smaller, specialty shops that thrive when a single niche is focused on (Gibbs, 2012). The big box stores are unlikely to see a substantial drop in sales as a result, as customers will still travel there for other items. Instead of being in direct competition, big and small business will be able to assist each other. In the end, the customers get better customer service, and more options. With building sizes small, the taxpayers and the municipality are not going to be left with a large anchor hole to fill. The smaller building can be easily repurposed, and if the anchor is no longer open at that TOD location, it will not cause the other TOD businesses to suffer.

TODs can also compliment local shopping for customers who want to shop from local merchants for sustainable, locally sourced goods, produce and services. A large obstacle to local shopping is that too many shop local campaigns do not exist and people have a difficult time locating local businesses (Shuman, 2006). Michigan's campaign titled "Pure Michigan" is primarily used for tourism (Ballard, 2010) and supporting an image that Michigan is a positive place to live and vacation. However it could just as easily be adopted to identify a "Pure Michigan Business" at a local TOD. Local support for local businesses could be used as a way to entice businesses to move into the TOD if they are hesitant, with programs set up to support the business with window signs, printed and online directories of local businesses, and other methods of getting the word out about local businesses to residents.

Street vendors are also going to be helpful for small businesses to thrive. While there usually is not much in the way of direct competition, street vendors do their part for the TOD by being on the street watching for safety aspects as well as keep the street life alive and attractive for pedestrians. If a street vendor does exceptionally well, they may be able to move into a vacant space within the TOD and become a permanent fixture or even one day an anchor business. The upward mobility of businesses within the TOD can be a powerful force in creating an environment where free market capitalism can thrive and grow.

Land use practices for Transit Oriented Development

Successful TOD depends on the cooperation of numerous private and public partners, and among them are those who set the requirements for the city's master plan and enforce the zoning purposes. In order to achieve the desired results with the TOD, the land must first be zoned for such use.

Standard Euclidian zoning may not be appropriate for TOD areas. There is going to be a separation of land uses, however the existing zoning has more than likely places undesirable elements such as heavy industrial facilities or nuisances far away from places where people like to live, work, and play (assuming of course that they do not work at these facilities). A first step to analyze land use once potential TOD locations have been identified is a auditing of the land within a mile radius. For most Rust Belt cities, it is going to be very likely that Euclidean zoning and a high separation of land uses have deemed the areas there a TOD is being considered to be some variant on "commercial" zoning (White, 1999). This zoning in itself as currently written is detrimental to TOD development.

The biggest surface issue with Euclidean zoning is that while the land uses are separate to keep problematic parcels away from the people, it does not permit mixed-use structures. Zoning practice increased along with American suburbs, whose residents were concerned that the dirty cities that they were fleeing would follow them, and zoning helped to protect them (Tyler & Ward, 2011).

In *Transit Town: Best Practices in Transit Oriented Development*, Dittmar and Ohland outline a six-pronged skeletal approach for successful TOD Zoning. They are:

- Create customized zoning for projects integrating transit facilities.

- Minimize customized planning and discretionary review for standardized TOD projects.
- Provide an explicit foundation in policy and politics.
- Engage transit organization policy leadership.
- Meet Multiple Objectives.
- Anticipate a lengthy timeline for customized projects.

These points are to compliment their “ABCs of TOD”: Active, walkable streets; building density and intensity; and careful integration of transit (Dittmar & Ohland, 2004).

These six points are extremely important for Rust Belt cities in order for them to be able to execute TOD plans. Particularly, the customized zoning and the multiple objectives are to be paid special attention to. While all points are important, these are going to require a great attention.

TOD projects are likely to occur outside of a master planning process and the zoning may need to be customized for each TOD site. The same way that there are numerous designations for zoning commercial, residential, agricultural, and industrial (such as R1 (multifamily), R2 (single family), etc.), it is reasonable to think that a city which wants to launch 4 TOD sites may have T1, T2, T3, and T4, which each site being zoned separately. This will help to maximize the number of uses that a piece of land can be suited for, allowing for more freedom and market based controls over what will work in the TOD. This organic approach opens up the market to decide weather or not small boutiques will survive, or if miniature Wal-Mart locations are better for the community. There may also be specialty regulations at the state level, such as mandating that all

casinos be based along a waterway that may need to be addressed if the TOD is also waterfront property.

Kaid Benfield, director of the Sustainable Communities and Smart Growth program at the Natural Resources Defense Council, feels that the a strong aspect of TOD zoning is moving away from Euclidean zoning and more towards a system of form-based codes (Benfield, 2012). The idea behind a form-based code is that instead of focusing purely on land use, it looks at the different ways that you can design a place and move to improve the aesthetics, character, how buildings relate to each other. A form based code is more for the visual learner, as it relies heavily on pictures and diagrams for the “this is what we want this place to look like” instead of detailed written instructions on how buildings are supposed to be. Benfield goes on to say that:

“Form-based codes are the indispensable tool for seeding the alternative to mega projects: incrementally assembled ensembles of smaller buildings and the human scaled places between them. This method of coding offers predictability by establishing the building, open space, landscape, and right of way standards that deliver an orderly urban form, by many development interests, over time.”

This fosters the idea that while TODs should support higher density, they also should not be overpowering. This is what is meant by “human-scaled places”, places that still have that feeling of humanity even as density increases the closer you get to the transit stop. It also supports an unknown change in the future, and developing a transit stop for the needs of today’s community may be different than the needs of the community 20 years from now. If that is the case, it should create less government red tape in the future and

there should be fewer documents, if any, which would need to be amended in order to accommodate the new uses.

These form-based codes will also help in the design and construction of the transit stop within the TOD, allowing for a cohesive feel to the place. This is opposed to the idea that you can create a place, and then simply build an adjacent transit stop and expect cohesion. After the (alleged) TOD was put into place in Atlanta at the Lindbergh Metro Station, resident Peggy Whitaker had some less than warm remarks for what happened, exclaiming that “They...put together something they called TOD when it’s just a BellSouth office park with a transit station stuck onto it.” (Halbur, 2007). This is a case where a promised TOD was instead a TAD – a Transit Adjacent Development. Unfortunately, this is not limited to Atlanta’s MARTA system or any others around the country, and in moving forward Rust Belt city administrators and planners must look at the past mistakes of poorly developed TADs that focus only on buildings and transit and use that as an example of why form based codes, and a livable environment are important for the success of a development. Simply installing a train station in a corporate office park is not a TOD; it is a cop-out.

The biggest strength of form-based codes is going to be how they deal with the overall quality of life of the people who will be utilizing the area. In particular, transit riders who are going to be pedestrians the second they step off the train or bus (and may soon become cyclists). There is no way that you can have a successful TOD without it being a friendly place from the ground up, and complete streets should be a part of it.

Complete streets is the notion that a road should be set up to serve users of all modes of transportation, not only those who use the automobile. Many Rust Belt cities

are slowly adding in options for complete streets proposals, usually with the addition of a bike lane. While this is a step in the right direction, it is necessary for creating a successful TOD. While the rest of the city may be slow to make progress on the conversion of old streets, the ones that should be triaged for redevelopment first are those in and around the proposed development. Changing over a half century of auto-oriented development is never easy.

Wide sidewalks, bike lanes, traffic calming measures, and a virtual abolition of setbacks for buildings are all part of what makes for a pedestrian friendly environment. Other pedestrian geared amenities are not to be overlooked either, and can go along way in altering the overall attitude of pedestrians within the TOD. Drinking fountains and public benches should be viewed not as additional comforts, but as mandatory items needed to keep the overall quality of life at a level, which meets or exceeds expectations. Even public toilets, which since their inception have never been considered places anyone wants to visit, seem to have found a recipe for success in Portland, Oregon. Looking to learn from the mistakes of failed public toilets like those in San Francisco and Seattle, Portland innovated and created a public toilet that has been met with success and even has sold them to other municipalities. Using the recipe of no running water, no mirrors, bars at the top and bottom, graffiti proof coating, and heavy-duty stainless steel (Metcalf, 2012). While expensive, such items would be a welcome addition to public life and a option for long term TOD planning, even if they are unable to be used in the initial development.

In part of the additional zoning and form based code options to make things pleasant for pedestrians, options for property and business owners should be explored as

well. If TODs are to have their own zoning designation (or at least zoning tailored to potentially apply to TODs), it may be a possibility to create incentives for these areas if it becomes difficult to attract business to the TOD. This is to be expected, as many TODs in the past have not reached the levels of success that were anticipated and as a result, businesses have not always seen the return on investment they hoped for. Using tax incentives to attract businesses into the TOD may be a necessary. These zones, sometimes called “enterprise zones” or “renaissance zones” make use of temporary tax relief so that businesses will come in under the premise that they may have drastically reduced or eliminated property taxes over a period of time. This may be a set time limit where for example there would be no property taxes for 10 years and if the provisions of the zone are not altered the property would be taxed at full market rate once the 10 years has ended. A graduated scale may also apply, for example in the first year property taxes may be 0% of what they would be without the abatement, then 10% after the first year, 20% after the 2nd year, and so fourth until the properties are all paying 100% their standard taxes. Decisions such as this are going to depend on a large number of variables for each city, including how eager businesses are to sign up to become part of the TOD, the economic outlook of the city in question, etc.

Another taxation tool that has potential to keep and improve the quality of TOD areas is the use of a Tax Increment Financing District, or TIF district. By turning TODs into TIF districts, local taxations can be applied in order to increase the number of public amenities in the TOD area. There is still much debate about whether or not TIF districts grow faster or slower than the rest of the municipality (Dye and Merriman, 2006), the

growth at a TOD is going to depend on the transit system and ridership more so than localized taxation efforts.

In the case of a TIF working within a TOD, the businesses would be required to pay into a tax pool administered by a TIF district authority (TIFa) that would add additional improvements and help keep the character of the area intact. The public toilets in Portland are expensive and it may be difficult for such things to get the attention of the city when fighting for tight budget dollars. However a TIFa would be more sympathetic to these needs. Business owners have a vested interest in keeping the streets looking nice, providing public amenities such as toilets (so potential patrons are not disrupted by people who are simply looking to use the business' restroom) will help to keep their customers happy and their businesses free of transients.

Working to keep and strengthen the character of existing neighborhoods should also be taken into consideration when looking to put together a TOD. Neighborhoods that are ethnic enclaves, contain local historical context, or otherwise contain some sort of uniqueness to them should have that uniqueness kept intact. These assets are inherent strengths of a community, and the idea of installing a TOD to bring out the welcome mat for a Starbucks and McDonalds could meet heavy resistance from the community. Existing strengths should be built off of and expanded on, not exploited or abused.

While gentrification may be the end result of newer developments and higher property values, planners should make every effort to make sure what makes neighborhoods special does not become extinct. Many times, government officials will not take notice of a change in a neighborhood until citizens voice concerns. The problem is that such concerns may not be vocalized, and the gentrification of a neighborhood may

simply be accepted as an inevitability of changing times. In the case of Boston's Italian west end neighborhood, citizens talked about how people used to be friendlier and were closer to each other personally. Even though they mourned the loss of their neighborhood cohesion, they did not seek to change it going forward (Gans, 1962). It is up to the city to keep eyes on the street, through pedestrian police officers or attending neighborhood meetings in order to make sure that the social cohesion and special character of the TOD areas are not destroyed by the new development.

Transit Strategies to Complement Transit Oriented Development

The first step in determining what kind of transit development your city wishes to pursue is to evaluate the city’s current, planned, and proposed transit systems. By doing this and creating a “transit audit”, a better picture of what the city’s transit and TOD future can be painted. Currently, transit options within the rust belt are fairly slim. According to the Center for Transit-Oriented Development (2012), the vast majority of Rust Belt transit systems are currently in the planned or proposed stages. The following chart was built using data from the Center for Transit-Oriented Development’s online transit project database.

City	BRT	SCT	M	LRT	HRT	CRT	Amtrak
Buffalo				E			
Chicago		E			E R	E R	E
Cincinnati		R			A		
Cleveland	E			E	E		
Detroit	R		E	P		R	
Milwaukee		P R				R	
Pittsburgh				P R	E		
St. Louis		P		E			

Transit Options in Rust Belt cities. 1

E = Existing; P = Planned; R = Proposed; A = Abandoned
 BRT = Bus Rapid Transit; SCT = Streetcar / Trolley; M = Monorail; LRT = Light Rail Transit;
 HRT = Heavy Rail Transit (Subway, Elevated Rail); CRT = Commuter Rail Transit; Amtrak = Amtrak

Based on this data, we can conclude that not only is the Rust Belt lacking in overall TOD strategies, but in transit overall. In fact, Chicago’s existing 417 transit stops dwarfs the rest of the Rust Belt transit stops, which only number 241 combined between the other seven cities represented in the data.

It is obvious that there is a great deal that can be improved on and implemented. Outside of Chicago, transit planners have the challenge of building transit on top of an infrastructure that is mostly limited to auto-oriented design and city bus services.

However the silver lining lies in that deciding where to put TODs can be part of the conversation for where the transit lines are to be run. Dealing with existing infrastructure can be a tremendous barrier for the project if you are forced to evaluate current transit stations that may be sub par, not meeting the needs of the community, or simply ill-suited for transit oriented development. By working TODs into transit discussing from the initial planning phases, the goals of the transit system and the TOD can be more easily brought together to form a cohesive, successful series of projects.

This is essential in dealing with developers. While TODs are going to be planned by local governing bodies, it is going to be the private sector who is going to be placing a great deal of investment, resources and time into making these TODs successful. The Urban Land Institute released a short publication titled *Ten Principles for Successful Development Around Transit*, and the third point on their list is that you cannot think about transit without thinking about the development that goes with it (2003). That means the developers need to be involved as well, and for them time is money. Having a good relationship with developers is important. You certainly do not want to compromise the public or your organization to make them happy, but an environment that fosters cooperation and collaboration will help the project to be successful. The idea is that developers will want to work on your transit projects instead of having a negative opinion about your organization or your projects. Down the road, it is better to have developers bid with fury to get your TOD projects instead of having to convince them that putting in a bid is worth their time.

In most cases of Rust Belt cities, the transit situation is going to have to change. It is impossible to have TOD without existing transit and our data has shown that in many

places, it simply does not exist. This is the ample opportunity to explore different transit options for Rust Belt cities to find the ones that will best compliment the city and meet the needs of the people. This will in turn make the transit plan stronger and will be a better sell to the public and government officials who may be skeptical.

Bus rapid transit, while not as impressive in the eyes of the public, is an option that has great success potential for rust belt cities. While many people think of rail in terms of “transit” within a city, the bus is a viable option in terms of cost and performance. It offers flexibility, reliability, and if done correctly, can change the attitudes people have towards taking the bus.

Unlike rail systems, buses can make use of the existing street infrastructure. Many Rust Belt cities have become part of the “shrinking city” phenomenon, where over time industry has left and population has dwindled. The challenge remains in dealing with large cities built for much more people than currently occupy them. Right now, we don’t know if the strategies being used to adapt to address the shrinking cities concept are going to be successful, and some think it could be literally decades (Gallagher, 2010) before we figure out if the policies and ideas we are enacting will work out. That being said, making the best use of our infrastructure is in the best interest of everybody involved. Less people in shrinking cities means there are now more roads with less people driving on them. With this extra space, many cities could eliminate lanes of traffic in order to create dedicated lanes for bus traffic, ensuring that buses would not be disturbed by any potential traffic congestion and encourage people to take the faster option of BRT instead of sitting in traffic.

In order to get people to like BRT, it needs to be a stronger argument than simply being faster than the automobile. In a Scottish study, researchers found that a reason why people did not care for bus riding was the idea of the kind of person that rode the bus. The participants answered that the image of the typical bus rider was, answers were summarized as:

“...people who cannot drive or afford to drive, including school kids and the unemployed, students, elderly people, mothers with prams (strollers), and a ‘less *discerning customer*’ which could include ‘Neds’ or ‘junkies’” (Dobbie, McConville, & Ormston, 2010).

This already creates a negative image as to what kind of person would use the bus, after all the prospect of sitting next to junkies, the elderly or screaming babies does not encourage people to ride. These findings are consistent with studies from other parts of the world, including the United States. The consensus is clear: people view bus riders as those who are riding out of necessity, not choice.

So how can you get people to choose the bus? The first step is getting rid of the image problem people have by building a product that they cannot associate with such an image. In order to build a BRT system that people want to ride, you have to try to rid people of all previous concerns with bus ridership and say, “our system will be different, this is why”.

BRT systems should not be thought of as city bus systems, but instead as a subway on wheels. Bogota, Columbia has made tremendous strides with their BRT system that accomplishes this nicely. The bus stops are elevated, well lit platforms where 100 people are able to get on and off the bus in seconds (Hustwit, 2011). This not only

makes for a subway-like feel for the bus, but it also creates an added element of safety, which also sits atop the concerns people have for not wanting to ride the bus (Dobbie, McConville & Ormston, 2010). The BRT platforms have more people and better lighting than people would typically expect, creating a safer area for patrons waiting to board. The elevated platform fits in with plans for a TOD nicely by giving people a gateway into the development.

Another part of the “bus as a train” concept is to take a few extra measures to ensure a pleasurable, easy to use experience. For as little as \$5,000 per bus numerous consumer upgrades can be applied which will allow for nicer and more comfortable seats, funding wireless internet service and creating a better overall experience (National Public Radio, 2012). Adding to the ease of use is the color-coding of the bus lines. Three digit numbers, causing confusing among riders, often identify city bus lines across the nation. A colored line system for identification is much easier to understand.

Another added benefit of BRT systems is that they are easy to re-route if it is discovered that routes need amendments to them. Since many shrinking city strategies are going to be works in progress over long periods of time, we don’t know if cities will grow, shrink, or stabilize. Rust Belt cities would be wise to explore BRT options if they are looking to add new transit to their city.

Light rail options are also to be considered, as like dedicated BRT lanes, could potentially take over lanes in wide roadways that are no longer as populated. However the amount of money needed conversion to a rail system would greatly differ from that of a BRT system. Even if the funds are secured and people are able to take advantage of a new LRT system, the operating costs are still very high. It is estimated that fares only

cover one third of the total operating costs for a light-rail system, and it is very unlikely, if not impossible, that such systems are able to exist without heavy government subsidies. In 2001, the St. Louis MetroLink received over \$14million dollars in subsidies from various levels of government in order to keep running (Garrett, 2004).

Light rail does offer great possibility for rebuilding urban cores, as is a key component of rebuilding vitality in Rust Belt cities. If these places are going to capture that urban essence they once had, building from the center on out is going to be imperative. Making light rail successful will be the ability to identify corridors that are slated for reinvestment or are already main arteries for transportation. Detroit is currently attempting to revive plans for a light rail line along Woodward Avenue, which divides the city into the east and west sides.

While the project has an uncertain future due to funding issues and poor cooperating among government entities (Spangler & Helms, 2012), the idea of building off the existing strengths of the corridor and having the potential for expansion are the basic blueprints for what is needed with light rail success. Detroit's difficulties however are not to be taken lightly by other Rust Belt cities – these projects are complicated, expensive, and may not often be the best fit. Detroit had originally scrapped the LRT system in favor of a more expansive BRT system, however it is currently uncertain if either will happen. This has been demoralizing for people in the area, as it now appears that without the LRT, the city will have failed and have to “settle” for a bus system, when in reality had BRT been the goal to begin with, perhaps the people would be more likely to get behind the proposal.

For cities that already have a LRT system in place, Buffalo, Cleveland and St. Louis in particular, considerations for alterations to your LRT system will be necessary in order to maximize the potential for TODs.

Heavy rail systems such as a subway or elevated rail are most likely not going to be viable financial options for Rust Belt cities. While they could be considered aggressive options for helping to spur development, the members of the public as well as the public officials are likely to find that the gamble will not be worth the risk. In addition to the costs associated with the creation of the new HRT lines, there is also the problem of existing infrastructure to deal with. Water, sewage, and other piping may end up needed complete re-routing or replacing as the result of an underground system.

For an above ground system, the costs will be far less, but will still far outpace LRT or BRT systems. These types of transit systems better compliment lively, dense urban cores that have different needs than those of shrinking cities. As of right now, we can see that no Rust Belt cities have new HRT systems planned, only some expansion of existing systems in (Chicago Center for Transit-Oriented Development, 2012) have even been proposed.

Commuter rail also has possibilities, but is best served in a capacity of moving from one strong urban core to another. Cleveland to Akron, Detroit to Ann Arbor, Dayton to Columbus may all be possible routes used to strengthen both urban cores by encouraging people to move between them. They may also hold potential to be pieces to a regional high-speed rail network some time in the future.

Commuter rail used to connect suburban workers to the city may help to ease traffic congestion, but ultimately become another tool of sprawl as it encourages people

to live from where they work. These types of development are not conducive to TOD as they do not encourage density or walkability. They encourage an environment where a transit patron will get in their car, head to a shared parking lot, hop on a train, and head into work. While a TOD may be an option within the city, you severely limit your TOD potential by choosing to place too many transit stops outside of a place where higher density would be encouraged. Pittsburgh has similar issues with their HRT system that exists in a capacity to serve the suburbanites who wish to work in the city.

Evaluating the Success of your project

TOD projects will have various goals of varying levels of importance based on the city, project type, and needs of the people. Goals should be the first step in establishing your TOD plans, as without quantifiable them it can make the success of the project difficult. For a Rust Belt city that has severely limited transit options, the goals may be broader, such as “increase basic ridership” and “familiarize people with public transit”, where ridership numbers and survey results can be used to measure success. For others it could be traffic congestion elimination, the quality of air in the urban core, restricting, sprawl, or others. Whatever the goals, they are important to establish early in the planning process so that all other aspects of TOD and transit planning can be centered around them.

Once the project has been complete, it is important that multiple data sets and methods used by multiple agencies be used. In determining success of TOD goals, different stakeholders will see different results. Using local government, MPOs, redevelopment agencies, State DOTs, transit agencies, community-based organizations, to determine how successful goals have been will be crucial in developing a mean set of data (Arrington & Cervero, 2008) that can properly evaluate the success of the project. For example, while some data is quantifiable in that there are hard numbers to say that transit ridership has increased by a certain percentage; others such as “quality of neighborhoods” may be more difficult to measure. Being able to compare importance, conclusions, and methods are vital in determining overall success. For example, based on data a local government agency may determine that as a result of the TOD, there has been little / no improvement in the neighborhood quality. But community groups who have seen their

neighborhoods undergo substantial decline in the past may see signs of improvement that do not show up with hard figures. This also helps to keep everyone at the table who was seated in the initial planning process, a showing of good government by letting the stakeholders know that their opinion is valued in the long term and not just the short term.

Numerous other factors in data collection must be considered as well. Some data will be station dependent (such as amount of private sector investment in the TOD), while others will be regional goals (number of TODs constructed). Even within these data there are numerous ways of considering their importance and by what measure are they a most true representation of overall improvement (Jenks, 2005). The private sector investment for example could be measured in the square footage of property invested in, the amount of money invested, number of properties involved in investment, and others.

The methods of data interpretation in these cases become equally as important as the data in question. The problem with this is that the idea of “success” for a TOD is going to be in many ways, interpretive and not necessarily agreed upon. Regardless of the success of a TOD in your city, planners in the Rust Belt should expect severe skepticism from people who will prioritize different methods of revitalization for urban cores other than transit. To minimize your risk of scrutiny it is important to have understandable goals, realistic projections on cost and time, and complete honesty with stakeholders and the public throughout the project. In doing so, it will make evaluation of the project much easier in the long term.

Conclusions

The number of challenges faced in the Rust Belt are numerous, and adapting to a new transportation system to serve 21st century needs of the residents is a daunting task in and of itself. With property values low, federal funds sparse, and a future uncertain, decisions made by planners in these cities are going to be felt for years to come. The silver lining exists, and there is a resurgence of people who are stepping up and working to revive urban cores. After decades of having these problems ignored and cities slowly slipping into decline, there is now national discussion on what can be done to change the way cities will operate for the next generation of Rust Belt Americans.

In looking at transportation options for people in these cities, TOD is a natural partner to ensure their success. Creating higher density encourages people to live near the transit stations and fosters an environment where people can interact with each other and their surroundings in a ways that antiquated zoning practices had once limited. In doing so we can better society, business prospects, land values, tax revenues, and transit.

But TOD is much more than simply creating a development around a transit station – it is about making a place where people will want to spend their free time. It is about creating an environment that encourages people to look at a dense space with the prospects of mingling and learning new things from one another, instead of simply being “crowded”. Working with zoning authorities to create new classifications for transit stops and adapt form-based codes are all part of the place making as well. With their population decline Rust Belt cities need more people on the street to create life, commerce and reduce crime. In turn, this will encourage others to explore the sides of the city that can be happy, healthy places to live, work and play. The end result will not be

19th century Paris. The city will be a 21st century American solution with enhanced urban beauty and the inherent ability to make peoples lives better. If done well enough, perhaps old world Paris won't be nearly as exciting as what the future holds.

Doing so takes a large collaboration of numerous partners. Working with retailers to ensure that the proper mix of big and small business; anchor and boutique; brick and mortar and street vendors; is met in a way that creates good business for all is a necessity. Working with local government, community organizations, transit authorities, the state, regional governments and others to set measurable goals for a TOD will help to determine the success of the project and make sure the needs of the public are met.

With the lack of existing transit in many Rust Belt cities, the opportunity exists to learn from the mistakes of others, even those with an outpouring of support for TODs and transit systems, and make America's old industrial cities an example of how to build TODs the right way. These cities built modern day America. The Rust Belt gave us steel, automobiles, westward mobility, multiple international trade crossings, and much more. If there is one thing that these cities have always done well, it is innovate. TOD is an American tradition dating back to the creation of the Trans-Continental railroad, and if any place was ripe to take failed TOD/transit concepts and make them work, it is the Rust Belt.

Cities should look to adapt realistic policies that benefit their people. Public support, government support at multiple levels, and a cohesive, well developed plan will help to sell a transit system and a TOD will show that the effort is there to make the system function. If they do so, and all the recommendations made in this essay, the

potential is limitless. Nothing comes easy, but without a plan in place to try and make it work, it will not come at all.

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