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For more details on the methodology, please visit: www.TODindex.com
Overview

Transit-Oriented Developments (TODs) are defined as walkable, mixed-use and dense communities within a half-mile of a train station while Transit-Adjacent Developments (TADs) refer to station areas that are characterized by low-density, auto-oriented land uses. Research indicates that gross housing densities should be at least 8 units per acre (which equals 4,000 households within an area radiating a half-mile from a train station) in order to support transit ridership.¹ Walkscore.com rates communities with a 70 or greater (out of a possible 100 score) as Very Walkable or a Walker’s Paradise (above 90).

The TOD Index™ provides a new benchmark to track both home and rental values in train station areas across the United States. The TOD Index includes stations categorized as TODs, Hybrids and TADs. Each category is also benchmarked against the national Zillow Home Value Index (ZHVI) or the national Zillow Rent Index (ZRI).

Evaluating the market performance of TODs relative to national trends is of significant value because of the following factors influencing 21st century real estate trends:

- The national housing market has undergone significant shifts following the 2008 recession
- A growing percentage of Americans, including a large percentage of the millennial generation prefer to live in urban areas with high-quality transit access
- Investors, developers, planners and policy-makers are looking to identify metrics to measure the success of TOD across the United States

The TOD Index allows for comparing performance in the for-sale and rental housing markets from the neighborhood to the national scales.

Criteria for Categorizing Station Areas

The United States has approximately 4,000 passenger train stations that are an integral part of serving over 10.7 billion transit trips in the United States in 2013, the highest ridership in 57 years.² The following criteria are used to classify stations across the United States along a TOD–Hybrid–TAD spectrum.

1,441 stations across the US are categorized as TOD Stations, which meet the following criteria:

1. Gross housing density must be greater than 8 units per acre across the half-mile station precinct

AND

2. The average Walk Score for the station area must be 70 or greater

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¹ See Renne and Ewing, 2013 for more information: http://scholarworks.uno.edu/cgi/viewcontent.cgi?article=1016&context=unoti_pubs
² See: http://www.apta.com/mediacenter/pressreleases/2014/Pages/140310_Ridership.aspx
Examples of TODs include Portland’s Pioneer Square and Bethesda, Maryland.

Pioneer Square Transit Mall:
Portland, OR
Gross Housing Density: 14.84 units per acre
Walkscore: 100
Index Category: TOD

Bethesda, MD Metro Station
Gross Housing Density: 9.69 units per acre
Walk Score: 94
Index Category: TOD

1,180 stations across the US are categorized as Hybrid stations which are defined as:

1. Gross housing density must be greater than 8 units per acre across the half-mile station precinct
   OR
2. The average Walk Score for the station area must be 70 or greater

Examples of Hybrids include Dallas’ Mockingbird Station and Denver’s Englewood Station.

Englewood Station
Denver, Co
Gross Housing Density: 2.43 units per acre
Walk Score: 83
Index Category: Hybrid
1,775 stations across the US are categorized as **TAD stations** which do not meet either criteria for a TOD or Hybrid.

Examples of TADs include the station at **Baltimore’s BWI airport** and **Cisco Station in San Jose**

**BWI Airport Station**

*Baltimore, MD*

Gross Housing Density: 0.0 units per acre  
Walk Score: 29  
Index Category: TAD

**Cisco Station:**

*San Jose, Ca*

Gross Housing Density: .47 units per acre  
Walk Score: 20  
Index Category: TAD
During the most recent economic recovery, which began January 2012, the growth of home values in TODs has significantly outpaced all other categories. During the 32 month period, average home values in TODs has grown by 37%, as compared to 27%, 24% and 20% in Hybrids, TADs, and the national average, respectively. This means that the growth of home values in TODs have outpaced the growth of home values nationally by a margin of 1.85-to-1.

In August 2014, the average home value in TODs was $518 per sf. The average home value in Hybrids was $251 per sf and the average home value in TADs was $196 per sf. This compares to the average national ZHVI for that same month at $149 per sf. Therefore, the average home in a TOD was worth 3.48 times more than the average home in the United States.

Since 1996, homes in TODs have appreciated about 300% as compared to 168% for Hybrids, 126% for TADs and 103% for the national average. When looking at the data during the most recent economic recovery, which began January 2012, the growth of home values in TODs has significantly outpaced all other categories. During the 32 month period, average home values in TODs has grown by 37%, as compared to 27%, 24% and 20% in Hybrids, TADs, and the national average, respectively. This means that the growth of home values in TODs have outpaced the growth of home values nationally by a margin of 1.85-to-1.
In August 2014, the average apartment in TODs rented for $2.28 per sf. Average rent in Hybrids was $1.36 per sf and the average rent in TADs was $1.19 per sf. This compares to the average national ZRI for that same month at $0.89 per sf. Therefore, the average apartment in a TOD rented for 2.56 times the average rental unit in the United States.

When looking at the data since January 2012, the growth of rent values in TODs has significantly outpaced all other categories. During the 32 month period, average rent values in TODs have grown by 18%, as compared to 13%, 11% and 8% in Hybrids, TADs, and the national average, respectively. This means that the growth of rent prices in TODs has outpaced the growth of rent prices nationally by a margin of 2.3-to-1.
Rental Values
$ per SF

TOD Index - Rental Values
January 2012 - August 2014

TOD Index™
The Affordability Paradox: Location Affordability Benefits of TODs

While housing costs more on a $ per sf basis in TODs, the data reveals a paradox that TODs are actually the most affordable places to live, at least for now. This is due to unit size being smaller in TODs, which means that while home values and rent prices on a per sf basis are higher, the overall prices make them more competitive on an affordability basis.

Table 1 shows that the average household in a TOD and Hybrid spent a smaller percentage of their income on housing (24%) compared to TADs (27%) and nationally (33%). Households in TODs also benefitted from the lowest transportation expenditures at 13% of their income, compared to 19% for Hybrids, 22% for TADs and 18% nationally. In total, TOD households had the largest disposable income after housing and transportation costs considering they only spent 37% of their income on these two categories, as compared to the average American, which spent 51% of their total income on housing and transportation.

TOD households have a larger disposable income, after housing and transportation costs, as compared to any other category. Given that the average household in a TOD earns $55,032 (see Table 2), their disposable income after housing and transportation is $34,670. TOD households have nearly $10,000 more in disposable income as compared to the average American. Moreover, despite TOD households earning significantly less than TAD residents, they have more disposable income. Table 3 reveals that TOD households are more likely to be located closer to downtown as compared to Hybrid and TAD households and they are significantly more likely to be renters.

Table 1: Location Affordability in TODs Hybrids and TADs

<table>
<thead>
<tr>
<th>Station Typology</th>
<th>Average HH Budget % on Housing</th>
<th>Average HH Budget % on Transportation</th>
<th>Average HHBudget % on Housing + Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOD</td>
<td>24%</td>
<td>13%</td>
<td>37%</td>
</tr>
<tr>
<td>Hybrid</td>
<td>24%</td>
<td>19%</td>
<td>43%</td>
</tr>
<tr>
<td>TAD</td>
<td>27%</td>
<td>22%</td>
<td>49%</td>
</tr>
<tr>
<td>Nation</td>
<td>33%</td>
<td>18%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Table 2: Income

<table>
<thead>
<tr>
<th>Station Typology</th>
<th>Average HH income</th>
<th>Disposable Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOD</td>
<td>$55,032</td>
<td>$34,670</td>
</tr>
<tr>
<td>Hybrid</td>
<td>$52,724</td>
<td>$30,052</td>
</tr>
<tr>
<td>TAD</td>
<td>$63,848</td>
<td>$32,562</td>
</tr>
<tr>
<td>Nation</td>
<td>$51,100</td>
<td>$25,039</td>
</tr>
</tbody>
</table>

Table 3: Distance to Downtown and Percent

<table>
<thead>
<tr>
<th>Station Typology</th>
<th>Average distance to CBD (miles)</th>
<th>Percent renters</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOD</td>
<td>3.9</td>
<td>72%</td>
</tr>
<tr>
<td>Hybrid</td>
<td>10.6</td>
<td>63%</td>
</tr>
<tr>
<td>TAD</td>
<td>15.1</td>
<td>45%</td>
</tr>
<tr>
<td>Nation</td>
<td>NA</td>
<td>33%</td>
</tr>
</tbody>
</table>

TOD Index™
Across the nation, approximately 18 million people live within a half-mile of a rail station. However, if all stations were built to a minimum density of 8 units per acre, the country could see new housing to accommodate an additional 26.4 million Americans, which would correspond to 11% of the population by 2050. However, an estimate by the National Association of Realtors revealed that over 80% of the millennial generation wants to live in TOD-like neighborhood. If demand continues to outpace supply, the nation could expect housing prices in TODs to continue grow quickly, and housing affordability, now present in TODs, to quickly become unaffordable as more and more people compete for the limited housing. This presents the nation with a significant opportunity to develop policies that encourage both new housing in Hybrids and TADs, and the opportunity to build new rail infrastructure to encourage growth and connectivity in our cities and regions to create more TODs across the United States.

<table>
<thead>
<tr>
<th>Station Typology</th>
<th>Average HH vehicle ownership</th>
<th>Percent Walk Commuters</th>
<th>Percent Bike Commuters</th>
<th>Percent Transit Commuters</th>
<th>Combined Walking, Bicycling and Transit Commuting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOD</td>
<td>0.6</td>
<td>17.4%</td>
<td>1.8%</td>
<td>38.6%</td>
<td>57.8%</td>
</tr>
<tr>
<td>Hybrid</td>
<td>1.0</td>
<td>10.0%</td>
<td>1.7%</td>
<td>17.0%</td>
<td>28.7%</td>
</tr>
<tr>
<td>TAD</td>
<td>1.3</td>
<td>4.2%</td>
<td>1.2%</td>
<td>12.2%</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

Table 4 shows that the average household in a TOD owns 0.6 vehicles as compared to 1.0 and 1.3 vehicles per household in Hybrids and TADs, respectively. Nearly 58% of households in TODs commute via walking, bicycling or transit as compared to 28.7% of households in Hybrids and 17.6% in TADs.

**Need for Converting Hybrids and TADs into**

Across the United States, there is the need and opportunity to increase the walkability and density of Hybrids and TADs to turn them into TODs. Federal, state and local communities have already invested significantly in years past to build the rail infrastructure – now communities, developers and investors need to take advantage of building TODs around the stations, which could have social, environmental and economic benefits.