



# Making Downtown Bakersfield High-Speed Rail Economic Development Case Studies

June 1, 2016





## **MAKING DOWNTOWN BAKERSFIELD**

### **HIGH-SPEED RAIL ECONOMIC DEVELOPMENT CASE STUDIES**

June 1, 2016

# TABLE OF CONTENTS

**EXECUTIVE SUMMARY ..... 2**

    HSR Case Study Selection ..... 2

    Key Lessons for Bakersfield ..... 3

    Unique Impacts of HSR ..... 4

    Downtown Revitalization Case Studies ..... 5

**LILLE, FRANCE ..... 6**

    HSR Overview ..... 6

    Context ..... 6

    Neighborhood before HSR ..... 7

    Real Estate and Economic Impacts ..... 7

    Supportive Public Policies ..... 9

    Lessons Learned ..... 10

**LE MANS, FRANCE ..... 11**

    HSR Overview ..... 11

    Context ..... 11

    Neighborhood before HSR ..... 12

    Real Estate and Economic Impacts ..... 12

    Supportive Public Policies ..... 14

    Lessons Learned ..... 15

**ZARAGOZA, SPAIN ..... 16**

    HSR Overview ..... 16

    Context ..... 16

    Neighborhood before HSR ..... 16

    Real Estate and Economic Impacts ..... 17

    Supportive Public Policies ..... 18

    Lessons Learned ..... 20

**CIUDAD REAL, SPAIN ..... 21**

    HSR Overview ..... 21

    Context ..... 21

    Neighborhood before HSR ..... 21

    Real Estate and Economic Impacts ..... 22

    Supportive Public Policies ..... 23

    Lessons Learned ..... 24

**PASADENA, CALIFORNIA ..... 25**

    Overview ..... 25

    Supportive Public Policies ..... 26

    Lessons Learned ..... 27

**VISALIA, CALIFORNIA ..... 29**

    Overview ..... 29

    Supportive Public Policies ..... 29

    Lessons Learned ..... 30

**DENVER UNION STATION ..... 31**

    Overview ..... 31

    Supportive Public Policies ..... 31

    Lessons Learned ..... 33

## EXECUTIVE SUMMARY

The advent of high-speed rail (“HSR”) service is expected to bring significant opportunities to Bakersfield and its economy. These opportunities are expected to spur transformative changes not only to the City as a whole, but specifically to the Downtown areas around station locations. **HSR can help to build on the transformation already underway in Downtown Bakersfield.**

This report examined four international case studies **to better understand the impacts of HSR on cities with similar characteristics as Bakersfield, and the public policy interventions and actions these cities took to leverage the significant investment of HSR.** Additionally, three national case studies are examined **to better understand downtown revitalization and station area development in the US context.** The lessons learned from these case studies can help inform the City of Bakersfield on the potential impacts HSR may have on the city and the ways the City can utilize the station area planning effort and HSR to achieve its long-term community visions. The US case studies also inform potential actions Bakersfield can take regardless of HSR to leverage its downtown area.

### HSR Case Study Selection

**A review of existing research on the spatial effects of HSR systems was done to better understand opportunities for Bakersfield.** It should be noted that due to the high number of other variables involved in urban development—from the status of the national economy to differences among cities involved—definitive predictions on the effects

of a new high-speed rail system are difficult to ascertain. No two regions are identical, and as such general predictions do not always prove true, as many factors determine outcomes. Additionally, the governance and fiscal structures are different in other countries, which adds a layer of complexity to international comparisons. Despite these constraints, a framework was developed for case study analysis that recognizes the limitations in drawing direct comparisons, yet still reveals insight applicable to Bakersfield.

**The spatial effects surrounding HSR are in principle similar to those around other fixed guideway mass transit (e.g. rail), but the size of the economic catchment area that high-speed rail draws activity from is wider and the effects of the HSR system are very dependent on the host city’s position in the urban hierarchy, i.e. a city’s position relative to other cities in its region.<sup>1,2,3</sup>** The system’s high capacity, limited stops, reliability, and wide economic catchment area create the potential for much more intense development than is typically associated with a single transit stop, and economic activity attracted to station areas is often regional-serving in nature.<sup>4</sup>

The spatial effects of high-speed rail are generally related to a city’s position in the urban hierarchy, therefore, **stations were characterized, and the corresponding effects the host-cities may experience, into five major categories show and illustrated below and on the following page:**

1. Stations in the center of a major urban agglomeration (Ex: Los Angeles Union Station)
2. Stations in a sub-center of a major urban agglomeration (Ex: Burbank)

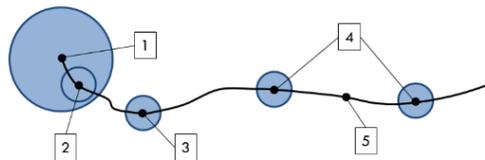
<sup>1</sup> Loukaitou-Sideris, A., Cuff, D., Higgins, T., & Linovski, O. (2012). Impact of High Speed Rail Stations on Local Development: A Delphi Survey. *Built Environment*, 51-70. p. 53, 60

<sup>2</sup> Urena, J. M., Menerault, P., & Garmendia, M. (2009). The high-speed rail challenge for big intermediate cities: A national, regional and local perspective. *Cities*, 266-279. p. 266

<sup>3</sup> Bernick, M., & Cervero, R. (1997). *Transit Villages in the 21st Century*. New York: McGraw-Hill.

<sup>4</sup> Krause, D. (2010). *Planning Transit-Oriented Development Around High-Speed Rail Stations in Bakersfield and Fresno*. San Jose: San Jose State University. p. 11

3. Stations in a city just outside a major urban agglomeration (Ex: Palmdale)
4. Stations in a city not near a major urban agglomeration (Ex: **Bakersfield**, Fresno)
5. Stations outside a city (Ex: Kings-Tulare)



Cities were selected that have HSR connectivity and a similar size, position in the urban hierarchy, travel time to a major metropolitan area, and other economic characteristics that provide some comparability with Bakersfield. While no case study is perfectly comparable with Bakersfield, these cases can be used to benchmark possible effects that might occur in Bakersfield. They also provide insight on actions undertaken to leverage their HSR stations successfully.

| International Case Studies (Bakersfield for Comparison) |                 |                              |                           |                                     |
|---|-----------------|------------------------------|---------------------------|-------------------------------------|
|   | City Population | Metropolitan Area Population | First Year of HSR Service | HSR travel time to Major Metropolis |
| <b>Bakersfield, California</b>                          | 370,000         | 870,000                      | 2025-2029                 | 50 min. (Los Angeles)               |
| <b>Lille, France</b>                                    | 230,000         | 1,090,000                    | 1993                      | 62 min. (Paris)                     |
| <b>Le Mans, France</b>                                  | 150,000         | 290,000                      | 1990                      | 55 min. (Paris)                     |
| <b>Zaragoza, Spain</b>                                  | 700,000         | 780,000                      | 2003                      | 86 min. (Madrid)                    |
| <b>Ciudad Real, Spain</b>                               | 75,000          | 90,000                       | 1992                      | 52 min. (Madrid)                    |

The table above illustrates similarities across key characteristics of the selected case study cities to Bakersfield. Lille and Le Mans were chosen to highlight their station area development and governance structure. Both of these cities have managed to attract new employment centers in the vicinity of their stations by leveraging HSR, and offer important lessons in that regard. Zaragoza was chosen to understand HSR’s potential effects on convention activity and tourism, as well as to highlight urban planning interventions that enhance connectivity to further unlock the potential offered by HSR in the surrounding areas. Ciudad Real was chosen to understand impacts from residential development and commuting, as well as undesirable outcomes that may occur absent supportive urban interventions.

### Key Lessons for Bakersfield

A number of common themes and takeaways emerged for successfully leveraging HSR investments across all the case study cities. The case studies illustrate that proactive policies and actions focused on three major themes: connectivity, station area planning, and governance.

**CONNECTIVITY** ensures that Bakersfield will have a HSR station that can be fully leveraged. Stations outside of city centers generally see less development and are less desirable than those located within or near downtown areas. Both proposed Bakersfield station locations are within the downtown area, and stand to see similar benefits as other case study cities, such as Lille and Le Mans, as a result of this centrality. In addition to locating a station near the urban core of a city, providing connectivity between the HSR station and the surrounding neighborhoods and city districts helps to amplify the impact of a HSR station, and spur development along connections to the HSR station.

Such connectivity policies include multimodal connections such as a light-rail or streetcar that can take people from the HSR station to other intra-city areas, as well as major investments in the public realm. Lille and Le Mans both invested in fixed-rail transit to serve their

HSR station and provide seamless connections to the remainder of the urban core and other outlying districts. Every effort should be made to ensure the station area is first and foremost friendly and well connected for pedestrians, secondly ensuring seamless multi-modal connections, and finally ensuring access for automobiles that does not hinder the first two modes. Such policies include providing wide and shaded sidewalks, removing barriers to pedestrian movement such as grade separated roadways, missing crosswalks, and roads that are too wide. The station area should have the highest standards for pedestrian and bicycle infrastructure to encourage non-automobile transportation and attract investment.

**STATION AREA PLANNING, such as zoning controls near station areas, can dramatically boost the impact a new HSR station will have on Bakersfield.** Appropriate zoning regulations can ensure a mix of uses in the station area to ensure the station area's long term vitality, and also prevent it from becoming a single use district such as a "nine to five" employment center. While office development often takes the land nearest the HSR stations, residential development can also be focused to the station areas. A mix of uses is vital to healthy station areas, allowing a variety of activities to take place at all hours, and every effort should be made to ensure that the zoning code supports the creation of multiple uses surrounding the station.

**Minimum density controls may also be necessary** to ensure the station area is not developed too quickly at too low a density, as was the case in Ciudad Real. Both zoning and density controls must acknowledge a long-term development timeframe that spans multiple decades, over 30 years in the case of Le Mans, to ensure decisions made in the station area now do not impede future opportunities in the years to come.

**GOVERNANCE of the station area development is tantamount to ensure it is developed in a way that maximizes its proximity to the HSR station.** The case study cities, aside from Ciudad Real, created

public development corporations that could acquire, dispose or develop surrounding land under public-private partnerships. These public development corporations generally included local, regional, and national government as well as private stakeholders and the railway authority. They ensured the station area was developed with an eye towards the long term, as development around HSR stations takes place over decades, while also ensuring that the public's vision for the station area is implemented.

### Unique Impacts of HSR

**HSR has the potential to have unprecedented impacts on Bakersfield.** While HSR's effect on total population and employment are difficult to predict, case studies indicate that HSR can aid in the revitalization of a city's economy and provide a catalyst for population and employment growth with the right public interventions.

**One of the most documented effects of HSR is the increased station area concentration and density of development that coincide with HSR service.** The large economic catchment areas, reliable travel times, and extremely high carrying capacity can bring large-scale development to the station area in Bakersfield. HSR presents an opportunity for Bakersfield to concentrate some of its future growth inward, building on the progress already made in its downtown area, and lessen the negative impacts of suburban sprawl such as congestion and air pollution.

**HSR service can enhance Bakersfield's brand,** in the region, the state and beyond. Development around the HSR station gives Bakersfield the opportunity to create new quality urban places for residents and visitors alike. HSR puts Bakersfield within easy reach of millions of Californians, building potential for more people to come and experience the city's local attractions. Connectivity with the rest of the state is also attractive to employers, and some existing firms in and outside of Bakersfield may relocate to the station area to take advantage of this major asset. Partially coupled with business growth

in the station area, business travelers will find Bakersfield in easy reach of major corporate hubs in San Francisco and Los Angeles. Cities such as Zaragoza and Le Mans experienced robust increases in business travelers after HSR service began, and both Zaragoza and Lille saw increases in convention activity as well.

**While HSR service brings great opportunities to Bakersfield, these opportunities can only be realized if Bakersfield commits to a compelling vision for the station area to be held over the long term.** HSR should be seen as a catalyst for growth, but not a sole source. Only through a comprehensive set of policy interventions and public realm investments can Bakersfield make the most of its future HSR station.

### Downtown Revitalization Case Studies

In light of Bakersfield's ongoing efforts to revitalize its downtown area, which will continue until the arrival of HSR and beyond, three case studies that focused on Downtown revitalization were conducted, concentrating on cities where such revitalization occurred before or without mass transit connections.

Pasadena, a metropolitan center approximately ten miles from Downtown Los Angeles, was selected to learn about ways that the City managed to increase the competitiveness of its historic downtown area (Old Pasadena) versus other regional suburban shopping centers. Visalia, a San Joaquin Valley city approximately 68 miles north of Bakersfield, was selected to represent an example of a revitalized downtown that occurred without any type of mass transit connection and in a development context not too dissimilar from Bakersfield. Denver Union Station was also selected as a case study to learn how multi-modal station investments can be effectively leveraged to catalyze a vibrant mixed use district in its vicinity, especially in the US context.

**Key interventions for both Pasadena and Visalia included the creation of a dedicated funding source for maintenance, safety, and improvement of the area.** This funding source in both cases stemmed from local businesses, and was construed as an investment in their bottom line as opposed to a series of expensive projects. Strong cooperation of local businesses allowed them to form assessments on themselves, as improvements to the districts at large improved their foot traffic. Thus, local businesses had strong incentives to pay for public improvements to the area, and were able to prioritize improvements that would make the largest difference to their patrons. **Bakersfield should consider the creation of a Downtown Business Improvement District to coalesce resources and political capital around furthering a long-term vision for the Downtown area.**

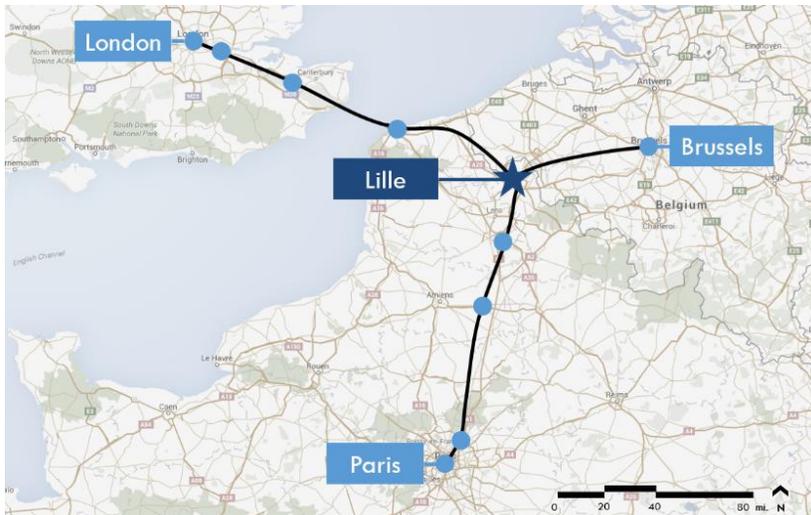
**Handling parking was vital in the case of Old Pasadena, and Pasadena managed to create mixed-use parking structures with tasteful urban design while simultaneously charging for street parking to fund further district improvements.** Local merchants often oppose interventions like parking meters out of fear that it will impact their business and driver customers away to suburban shopping centers, but if parking revenues are dedicated to local area improvements, corresponding investments can more than make up for the increased deterrent of paid parking.

**In Denver, a city-led effort to consolidate railyard space created highly desirable development parcels under single-owner control.** While this is a challenge in the absence of a Redevelopment Agency, Bakersfield will have to consider other creative mechanisms to incentivize the kind of development it wants to see in the surrounding station area. In Denver, land assembly was one methodology, but ultimately the process was driven through a partnership between the public and private sectors.

## LILLE, FRANCE

### HSR Overview

Lille is located in the northeastern area of France at a major railway junction between Paris, London, and Brussels. Service to the Euralille Station in Lille began in 1993 with a Train à Grande Vitesse (“TGV”) HSR connection to Paris and a Eurostar connection to London and Brussels in 1994. The Station was later served by Thays trains to Brussels in 1997.



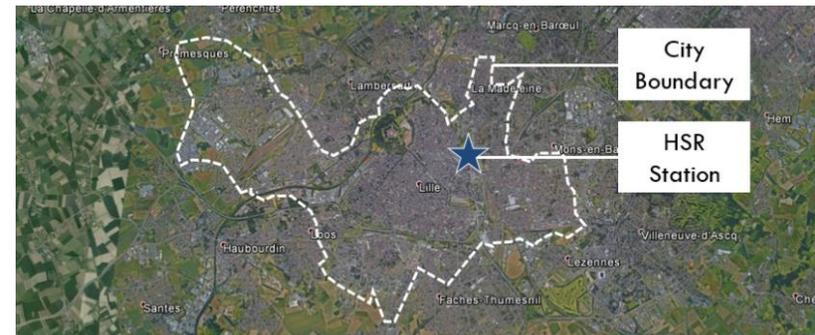
The City of Lille aimed to develop an international business center to leverage their new centrally-located HSR station. To execute this development, the City created a government-based development management organization (Euralille Metropole) to carry out the development.<sup>5</sup> The original plans called for a HSR station outside of

the city. However, not wanting to be bypassed, the City launched a lobbying effort to bring HSR to a more central location in order to develop an international business center, going so far as to pay 500 million francs (equivalent to \$120 million in 2016 dollars) toward the extra cost of rerouting the TGV to the center of Lille.

|                         |   |
|-------------------------|---|
| <b>Year Built</b>       | 1993  |
| <b>Key Travel Times</b> | Brussels: 36 min<br>Paris: 62 min<br>London: 81 min |
| <b>Station Location</b> | Adjacent to Historic Core                           |

### Context

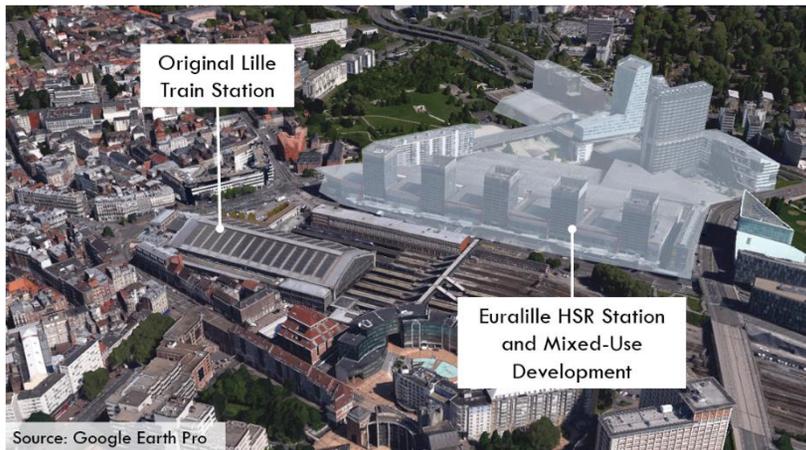
The Lille metropolitan area was inhabited by just over one million people in 2009, slightly larger than the Bakersfield metropolitan area. The city proper is home to approximately 230,000 people, slightly smaller than the City of Bakersfield. Lille is an intermediate city between major metropolitan areas, and the travel time to Paris (62 minutes) is similar to that of the HSR proposed travel time between Bakersfield and Los Angeles Union Station.



<sup>5</sup> Krause, D. (2010). Planning Transit-Oriented Development Around High-Speed Rail Stations in Fresno and Bakersfield. San Jose: San Jose State University.

### Neighborhood before HSR

**Before HSR, the Station area was home to old military barracks adjacent to the existing old train station in Lille.** According to one survey of HSR professionals and academics, the Station area was “derelict,” or suffering from neglect and disinvestment.<sup>6</sup> Similarly Downtown Bakersfield has not shared as robustly in the growth experienced in its city as a whole.



### Real Estate and Economic Impacts

**In the 1980s, Lille’s economy was slowing from deindustrialization due to competition abroad and the decline of the textile, manufacturing, and mining industries.**<sup>7</sup> The city was suffering from low levels of education in its workforce. City employment was consistently declining, and according to the National Institute of

<sup>6</sup> Loukaitou-Sideris, A., Cuff, D., Higgins, T., & Linovski, O. (2012). Impact of High Speed Rail Stations on Local Development: A Delphi Survey. *Built Environment*, 51-70. p 57.

<sup>7</sup> Preston, J., & Wall, G. (2008). The Ex-ante and Ex-post Economic and Social Impacts of the Introduction of High-Speed Trains in South East England. *Planning, Practice & Research*, 403-422.

Statistics and Economic Studies (INSEE), the city lost 5,000 jobs between 1982 and 1990.

| Timeline of Key Events |   |
|------------------------|---|
| 1988                   | Master plan commissioned for Euralille 1.   |
| 1990                   | Formation of the development zone and public enterprise to lead development of Euralille 1. |
| 1993                   | HSR service begins.   |
| 1994                   | Delivery of first buildings in Euralille 1.   |
| 2000                   | Creation of development zone for Euralille 2.   |
| 2007                   | Delivery of first offices and housing for Euralille 2.                                      |
| 2016                   | Expected construction start for Euralille 3.  |

**After the introduction of HSR, Euralille grew to be the third most powerful financial, commercial, and industrial center in France with over 3.2 million square feet of commercial floor space in 2014.**<sup>8</sup> Employment in Lille eventually stabilized, gaining 700 jobs by 1999 and nearly 13,000 additional jobs by 2006. The composition of employment also changed greatly, from a larger proportion of lower-skilled industry and construction workers to more mid-level managers, professionals, and other service sector workers.<sup>9</sup> The city attracted several international accounting firms and national banks.

The conference center, built shortly after HSR, was quickly booked full and required expansion. Lille was able to capture more meetings and conventions due to its central location to other major metropolitan areas. Lille’s large historic core and cultural assets such as the Place du

<sup>8</sup> Dorval, R. (2014). "Phoenix Cities" and city value creation. *Lille: La Fabrique de la Cite*. p 9.

<sup>9</sup> National Institute of Statistics and Economic Studies

General-de-Gaulle no doubt aided in helping Lille become a successful conference destination, but the increase in convention activity alludes to HSR access being an important factor, opening up opportunities for cities to attract more conference activity than currently exists.



**Euralille 1 was the first phase of development around Euralille Station, led by Euralille Metropole. Construction of Euralille 1 began in conjunction with HSR in Lille with the hopes of becoming an international business center.** Today, Euralille 1, also called Euralille Center, consists of five mixed-use neighborhoods with approximately 1,700 residents. The development contains retail and an entertainment complex, a business center with two office towers over 20 stories, a 17-acre park, and lodging, including a Suite Hotel. **This development around the Euralille Station has been credited with raising the profile of the city and helping to increase economic activity overall.**

**Real estate development in and around the Station area has continued.** In 2000, *Euralille 2* began development by the Euralille Metropole, and includes approximately 560,000 square feet of residential, 750,000 square feet of office, 58,000 square feet of trading space, and 140,000 square feet of hotel



space.<sup>10</sup> While the original project had a higher proportion of residential development, the continuation of office development around the Station suggests that employment uses near the HSR station have been very successful.

Additional development is planned, with *Euralille 3*, located adjacent to *Euralille 1* and *2*, proposed to contain 1.4 million square feet of office space, thousands of housing units, shops, bars and restaurants, as well as 54,000 square feet of sports, culture, and leisure space.<sup>11</sup>

### Supportive Public Policies

**A widely cited key to the Lille station area's success was regional cooperation and the reaching of unanimous agreements among different levels of government to ensure the area's success.**<sup>12</sup> The mayor of Lille managed to forge political agreement among municipal government, regional government, railway authorities, local public-private partnerships, national government, and private citizens.<sup>13</sup> Similarly, strong political leadership was combined with a consistent strategy over a long time period.

**Consistency over long timeframes and a strong vision are tantamount given the timescales of development involved with HSR**, as illustrated by the expected completion date of *Euralille 3*, **nearly four decades** after HSR service began. Lille proceeded with phased implementation plans and a strategy that valued the long term vision for the area over short term market gains.

**A metropolitan-wide program for the adaptive reuse of facilities resulted in major reorganization of land uses and activity locations surrounding the station, some of which helped to build on the**

**momentum near the HSR station.** Additionally, due to the development being part of a large master-planned community, Lille ensured a mix of uses beyond just office near the HSR station, increasing the area's urban vitality.

In addition to the public sector's active and consistent role in development, **Lille focused additional transit investments around the new HSR station and the old train station**, including rerouting an existing tram. The City ensured relatively seamless

transportation connections between its metro system, tramway, and bus



network. Ensuring surrounding areas are tied to the station area through available transportation options is key to incentivizing economic agglomerations. Focusing activity around HSR stations and providing easy connections to concentrations of service-sector activity were also vital to catalyzing area redevelopment.

**Finally, Lille also made significant public realm investments to improve the city districts surrounding the station areas, to ensure their integration into the surrounding urban structure.** Such improvements included the addition of bike lanes, ensuring easy pedestrian connections between the two train stations and the

<sup>10</sup> Euralille SPL. (2016, April 5). Living and Working in Euralille. Retrieved from Euralille SPL: <http://www.spl-euralille.fr/nos-projets-urbains/euralille-2.html>

<sup>11</sup> Aubry, M. (2015, April 24). In Lille, the municipality wants to "finish" Euralille third business area of France. Nord Pas de Calais.

<sup>12</sup> Nuworsoo, C., & Deakin, E. (2009). Transforming High-speed Rail Stations to Major Activity Hubs: Lessons for California. Washington, DC: Transportation Research Board. p 12.

<sup>13</sup> Urena, J., Menerault, P., & Garmendia, M. (2009). The high-speed rail challenge for big intermediate cities: A national, regional and local perspective. *Cities*, 266-279. p 270.

neighborhoods, the addition of a footbridge directly connecting the two stations to minimize walking distances, ensuring adequate crosswalks at all intersections, and minimizing roadway grade separations where possible.

### Lessons Learned

**Lille was at the HSR interchange between three major world cities, while Bakersfield is connected to only two.** European cities generally have seen less of their historic cores destroyed over time than many of their American counterparts, as European cities predominately maintained or invested in more mass transportation systems post-1960 and prevented large-scale freeway construction into urban cores. Despite these differences, Bakersfield can learn from the supportive public policies that were used in Lille to successfully leverage HSR, even if the results of similar policies applied to Bakersfield may not be identical.

**Bakersfield could assist in catalyzing development through the creation of better multi-modal connections between the proposed HSR station and other activity or transportation nodes such as the downtown core, the airport, and the existing Amtrak station.** Cooperation between local and regional government, local transportation agencies such as Kern Transit and Golden Empire Transit, as well as state agencies such as Caltrans and the CHSRA will be crucial to implementing a consistent and long term vision for these future transportation networks. Much as the original *Euralille* project sought to alieve the barrier effect of a major motorway, Bakersfield can work with agencies such as Caltrans to ensure maximum pedestrian permeability between the future HSR station and the rest of the surrounding urban fabric.

**Successful station areas thrive from a dense mixed-use environment.** Bakersfield could ensure its zoning code and parking requirements are flexible enough that mixed-use development is

financially feasible, and implement land use controls that prevent any single land use from completely dominating the station area.

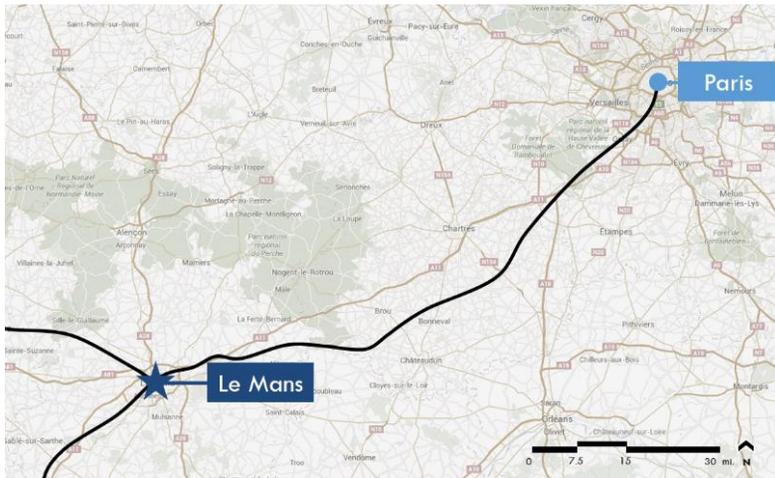
**Bakersfield should acknowledge the multi-decade timelines of station area development when planning for the station area and when implementing development plans.** Because of the long term and dynamic nature of developing a HSR station area, Bakersfield should use caution when deciding what types and scale of development to allow in the station area. If Bakersfield allows development to occur at too low of a density level in the near term, valuable vacant or underutilized land in the station area may be quickly exhausted, preventing future denser development as market demand evolves over time. Therefore, Bakersfield should adopt a long-term phasing strategy and development guidelines for the station area, potentially including minimum density requirements.

**Public-private partnerships can help bring Bakersfield's vision for the station area together with financial resources to implement that vision.** The private sector could bring financial capital and incentivize the highest and best use of station area land, while the public's partnership in development could guard Bakersfield's long term vision. Structuring such a partnership to include other stakeholders such as the California High-Speed Rail Authority or downtown business owners could help ensure station area development succeeds at multiple goals including generating ridership for the HSR system and continuing the revitalization of downtown.

# LE MANS, FRANCE

## HSR Overview

Le Mans is located in the Pays de la Loire region of France along a TGV HSR line to Paris. Service to the Le Mans Station began in 1990 with a TGV HSR connection to Paris. Construction is currently underway to continue this line to Rennes, France, slated to open in late 2016.

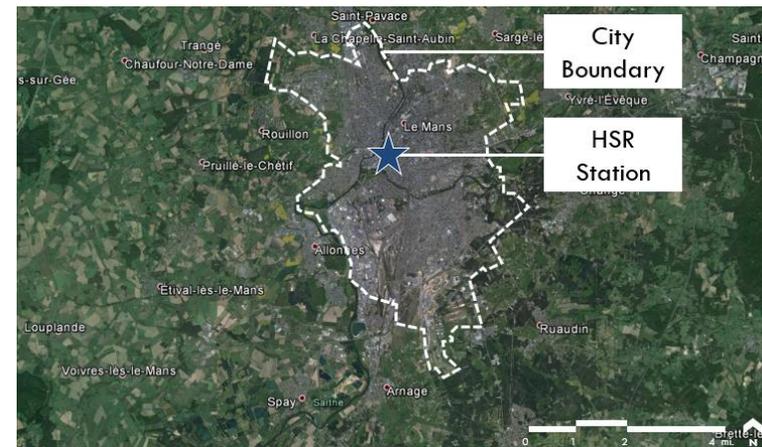


Initially, the French National Railway Company, Societe nationale des Chemins de fer francais (SNCF) intended to build a peripheral station on a new HSR line, bypassing Le Mans to reach Nantes and Rennes more quickly. Strong mobilization by local authorities against that plan led to the

|                         |                           |
|-------------------------|---------------------------|
| <b>Year Built</b>       | 1990                      |
| <b>Key Travel Times</b> | Paris: 55 min             |
| <b>Station Location</b> | Adjacent to Historic Core |

<sup>14</sup> Bakersfield is, however, a stop on the intercity Amtrak California San Joaquin line.  
<sup>15</sup> Masson, S., & Petiot, R. (2009). Can the high speed rail reinforce tourism attractiveness? The case of the high speed rail between Perpignan (France) and Barcelona (Spain). *Technovation*, 611-617. p. 614

creation of a station within Le Mans urban core. The HSR station in Le Mans was constructed upon the same site as the existing conventional train station, preserving part of the original building. The City of Le Mans had no existing intra-city rail transit system at the time HSR was implemented, but later built tramways in 2007.<sup>14</sup> Users of the HSR line between Paris and Le Mans include a large contingent of business travelers, as well as commuters who travel to Paris one or more days a week.<sup>15,16</sup>



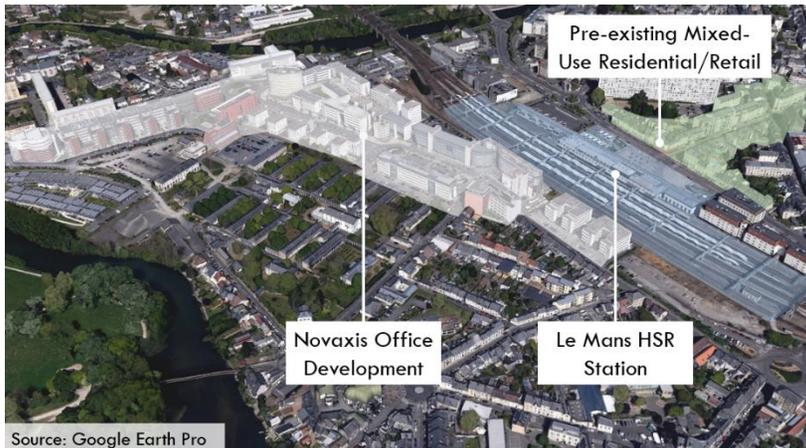
## Context

Le Mans is a mid-sized city with a HSR travel time to a major city, Paris, of approximately an hour, similar to that of the proposed travel time between Bakersfield and Los Angeles Union Station on HSR. The Le Mans metropolitan area population was 345,000 in 2012, smaller than the Bakersfield metropolitan area, while the city proper is home to approximately 144,000 people.

<sup>16</sup> Stanke, B. (2009). *High Speed Rail's Effect on Population Distribution in Secondary Urban Areas: An Analysis of the French Urban Areas and Implications for the California Central Valley*. San Jose: San Jose State University. p. 12

### Neighborhood before HSR

The area to the northeast of the station area is part of the historic core of Le Mans. As a result, little physical development has occurred in this area since the introduction of HSR. The area to the southwest contained many low-rise industrial buildings, parking lots, and other vacant or underutilized railways sites and abandoned industrial brownfields.<sup>17</sup> Economic activities in the area included small-scale industrial production—distribution and repair, food processing, and small craft enterprises—but many of these industrial uses were slowly disappearing from the deindustrialization occurring in Le Mans.<sup>18</sup> Much of the new business activity was taking place in business parks away from the old city center. This area to the south of the station would later be developed as the Novaxis business center.



<sup>17</sup> Facchinetti-Mannone, V. (2009). Location of high speed rail stations in French medium-size city and their mobility and territorial implications. *City Futures*.

<sup>18</sup> Chevalier, J., Amiard, D., Bertrand, J., Djeridi, N., & Dodier, R. (1997). *Le Mans, 6 Years after the Arrival of the TGV. Le Mans: Geographic Areas and Societies*. p. 21, 32

### Real Estate and Economic Impacts

**The introduction of HSR to Le Mans did not completely turn around declines in population and employment citywide, but did succeed in stabilizing the city’s economy and redirecting development to the station area.**

Like many other cities in France, Le Mans was deindustrializing in the 1980s. According to France’s National Institute of Statistics and Economic Studies (INSEE), the population of Le Mans peaked in 1975 at 152,000. Between 1975 and 1990, the city’s population declined by nearly 7,000 people, or 4.5 percent. Le Mans saw its first population increase in 1999, the first census after HSR service was implemented, growing by just over 500 people. However, the population has since declined by nearly 2,000 people.<sup>19</sup>

| Timeline of Key Events |  |
|------------------------|--|
| 1986                   | Master planning for Novaxis Business Center begins.                |
| 1990                   | HSR service to Le Mans commences, first buildings in Novaxis open. |
| 2006                   | Planning for Novaxud begins.                                       |
| 2019                   | Expected completion of the Novaxud development.                    |

However, the population has since declined by nearly 2,000 people.<sup>19</sup>

**The city experienced growth in business and convention visitors and an increase in hotel stays.** However, this was coupled with decreases in the average length of hotel stays as business travelers generally stayed for shorter periods than leisure travelers.<sup>20</sup> While the industrial sector in the City continued to decline, this was partially offset by growth in the service sector.<sup>21</sup> Much of this growth in service sector business activity took place in the Station Area, due to the construction of the Novaxis Business Center.

<sup>19</sup> Population change between 1999 and 2013, INSEE, [http://www.insee.fr/fr/themes/detail.asp?ref\\_id=poplog-com&reg\\_id=99](http://www.insee.fr/fr/themes/detail.asp?ref_id=poplog-com&reg_id=99)

<sup>20</sup> Masson, S., & Petiot, R. (2009). p. 614

<sup>21</sup> Sometimes referred to as the tertiary sector, includes sectors such as government, professional services, banking, healthcare, real estate, and education.

**HSR had a positive impact on real estate in the city.** The number of transactions of raw land and building sites doubled in three years. One study found that the general price of developable land in Le Mans doubled in the four years after HSR service, increasing from \$82 to \$164, 200 percent, per square foot.<sup>22</sup> Furthermore, annual apartment



Source: Wikimedia

rents rose from \$10 to \$18 per square foot, 180 percent, in three years after HSR service began.<sup>23</sup>

**Planning for the Novaxis Business Center was launched in 1986, offering affordable office space to local and Parisian firms that could leverage the new direct HSR**

**connection.** The project was developed by the City of Le Mans and implemented by a partnership of local government authorities, and consisted of two phases. This partnership could acquire land, and through control by various stakeholders, ensure the development on the land balanced both the community's vision as well as economic viability.<sup>24</sup> The first phase, which opened in conjunction with HSR service, focused on space for local companies to expand their operations, while the second phase focused on attracting tertiary firms from Paris. Just one year after HSR



Source: Novaxud.fr

<sup>22</sup> Sands, B. D. (1993). The Development Effects of High-Speed Rail Stations and Implications for California. Berkeley: The University of California Transportation Center. p. 27

<sup>23</sup> Sands, B. D. (1993). p. 27

<sup>24</sup> Chevalier, J., Amiard, D., Bertrand, J., Djeridi, N., & Dodier, R. (1997). p. 25

<sup>25</sup> Sands, B.D. (1993). p. 27

service began, the 108,000 square feet of office space was already 96 percent occupied, and an additional 237,000 square feet of office space was planned.<sup>25</sup> As of 2009, the business center was home to 80 companies and employed over 3,000 people.<sup>26,27</sup>



Source: Mapio.net

| Novaxis Business Center |           |           |
|-------------------------|-----------|-----------|
| Year                    | Companies | Employees |
| 1996                    | 50        | 700       |
| 2005                    | 72        | 2,500     |
| 2009                    | 80        | 3,000     |

Tenants occupying the Novaxis campus early on included

telecommunications, patent consulting, IT, educational, accounting, and architecture firms and organizations.<sup>28</sup>

**Starting in 2006, Novaxud, a continuation of the Novaxis Business Center, was launched.** It contains over 750,000 square feet of office space leased to companies such as XLRE, ST Ericsson, and BSN Medical Care. Despite relatively flat historical population growth in Le Mans, real estate development continues in Novaxud, with over 500 residential units planned as part of a third phase expected to finish in 2019.

In the last five years, there has also been some minimal development on the northeastern side of the station integrated with the historic core, including two mid-rise office buildings and a senior apartment building. These began soon after the local tramway system was implemented in

<sup>26</sup> Facchinetti-Mannone, V. (2009).

<sup>27</sup> Thierry, G. (2008, February 7). Novaxud shows its face behind South Station. Ouest-France.

<sup>28</sup> Bazin, S., Beckerich, C., & Delaplace, M. (2006). Analyse prospective des impacts de la Ligne à Grande Vitesse Est-européenne dans l'agglomération rémoise et en région Champagne-Ardenne. Reims: Champagne-Ardenne Regional Council. p. 88

2007. Current companies occupying the Novaxis and Novaxud Business Centers include architecture firms, offices of major medical equipment and electronics manufacturers, insurance companies, digital incubators, and software companies.

### Supportive Public Policies

**A partnership of Le Mans municipal and metropolitan governments, and the local department<sup>29</sup> government drove the Novaxis Business Center's success by adapting development strategies for Le Mans' local economy, aiming the first office space at local businesses and then marketing space in the established business hub at Parisian firms.** Additionally, the development created Class A office space that was accessible both along HSR, and, through public realm investments by the City, to the surrounding neighborhood as well.<sup>30</sup> Part of this accessibility improvement was to create pedestrian underpasses that limited the barrier of the railway, connecting the Business Center with the historic core on the other side of the tracks. Strong cooperation of various City departments to ensure connectivity and access, as well as cooperation from the SNCF, was key to the success of the Novaxis Business Center.

**The City of Le Mans made significant multimodal connectivity investments in order to fully leverage the HSR station, which has increased development in the station area, added to its desirability and reconnected marginalized districts in other parts of the city.** The City improved



Source: Region Pays De La Loire

the station area in 2006 by adding a large public plaza to connect the station with the historic city center and adding a tramway for travelers to make connections to the rest of the city. The City continues to expand the tramway today, spurring mid-rise office and residential development on the north side of the station area. Le Mans also upgraded nearby streets to improve connectivity and installed bicycle racks on both sides of the station. The City moved its main bus terminal, which is served by five bus lines, to the station site to strengthen its function as an intermodal hub.

**While HSR appeared to slow Le Man's decline and stabilize its economy, it did not lead to robust economic growth for the City.** Other simultaneous investments, such as the local tramway system and public realm improvements, were needed to support development in the station area. As such, HSR in Le Mans was a catalyst for improving the station area and diversifying the city's economy, but was not the sole catalyst for these changes.<sup>31</sup>

<sup>29</sup> French Departments are similar in size to larger counties in the United States.

<sup>30</sup> Facchinetti-Mannone, V. (2009).

<sup>31</sup> Sands, B. D. (1993). p. 27

### Lessons Learned

**Unlike Le Mans, Bakersfield is experiencing robust growth in its population and employment, and can redirect a portion of this future growth to the Downtown using HSR as a catalyst in conjunction with other strategies.** Le Mans was able to develop a major concentration of business and economic activity around its HSR station despite declines in employment and population. Le Mans was also able to slow down the decentralization taking place within its city limits, and increase the population within 2.5 miles of the station area after nearly three decades of decline.<sup>32</sup>

**While HSR can help to catalyze change, Downtown Bakersfield will require investments in the public realm and improvements to ensure connectivity with the station.** Le Mans did not experience robust citywide employment growth after HSR service began, but it did intervene to develop the station area to improve its attractiveness. Similarly, Bakersfield cannot expect HSR to be the sole source of development downtown, and should view HSR as one of many tools in economic development to be used as part of a long term comprehensive strategy. Leveraging the HSR station, however, will require investments in strong mobility connections between the future station and the historic core of Bakersfield.

**Development in Downtown Bakersfield around HSR can be directed to underutilized sites to avoid the destruction of important historic buildings or other cultural assets.** Le Mans successfully developed high levels of density around its station on old industrial sites, parking lots, and vacant land without damaging the historic core to the north of the Station. Bakersfield should seek to preserve historic buildings in the Study Area while targeting development to underutilized sites, thereby preserving building diversity.

**Effective development of the station area in Bakersfield may require a partnership to ensure the station area vision is followed.** A partnership between local and regional government, as well as the California High-Speed Rail Authority, may ensure development in the station area follows the long-term vision for the area and is developed to a sufficient density to fully leverage the state and federal HSR investment. As one of the primary stakeholders in such a partnership, Bakersfield can ensure that its vision for the station area development is followed.

---

<sup>32</sup> Stanke, B. (2009). p. 42

# ZARAGOZA, SPAIN

## HSR Overview

Zaragoza is located in the northeastern area of Spain on an Alta Velocidad Española (“AVE”) HSR line halfway between Madrid and Barcelona. Service to the Zaragoza Delicias Station, a newly built station 1.5 miles to the west of the center of the city on the edge of the historic core, began in 2003. The extension of service to Barcelona began in 2008.

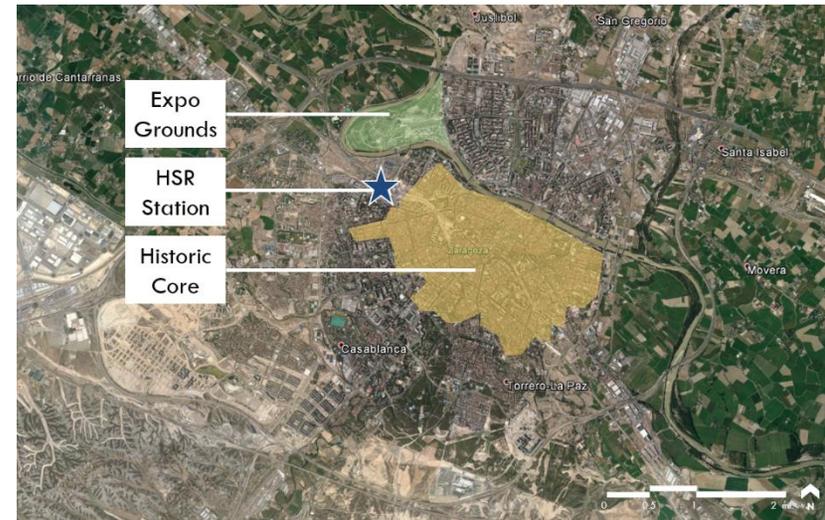


The City of Zaragoza sits in a semi-arid agricultural region but has a relatively diversified economy with manufacturing of automobiles, appliances, rolling stock, as well as logistics and brewing. Zaragoza had no urban rail transit at the time HSR began operations, but opened a tram network in 2011 that is currently undergoing expansion. However, this tram system does not currently serve the HSR station, and there are currently no plans to connect to the station in the future. The local bus system does serve the station.

|                         |   |
|-------------------------|---|
| <b>Year Built</b>       | 2003  |
| <b>Key Travel Times</b> | Madrid: 86 minutes<br>Barcelona: 89 minutes |
| <b>Station Location</b> | Outside Edge of Historic Core               |

## Context

In 2006, the population of the Zaragoza metropolitan area was 784,000, similar to that of the Bakersfield metropolitan area, while the city proper is home to approximately 701,000, larger than the City of Bakersfield. Zaragoza’s HSR travel time to Madrid is approximately 86 minutes, slightly longer than that of the proposed HSR travel time between Bakersfield and Los Angeles Union Station.



## Neighborhood before HSR

Before HSR, the station area was at the very edge of the city, which has since grown around the station. The areas directly upon which the station is built contained old passenger railway infrastructure that was predominately put underground to the east of the station as part of the construction. The land across the river, which became the 2008 World Exposition grounds, and a large parking lot between the station and the Ebro River, were both previously agricultural land.



## Real Estate and Economic Impacts

**Zaragoza was a growing city before HSR service was implemented**, adding 23,000 people or 3.9 percent between 1981 and 1991, and 21,000 people or 3.5 percent between 1991 and 2001. After HSR service began in 2003, growth accelerated rapidly, and Zaragoza's population increased by 63,000 between 2001 and 2011, a 10.3 percent increase. Zaragoza's population growth can be attributed to both HSR and the end of Spain's recession in the late 1990s.<sup>33</sup>

**Between 2003 and 2005, over 5,600 new companies opened in Zaragoza**, representing a growth of 9 percent.<sup>34</sup> The city shifted from having a more industrialized economy to one that is now service-sector oriented, with industrial activity shifting to the periphery of the city.<sup>35</sup>

<sup>33</sup> Instituto Nacional de Estadística

<sup>34</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). The high speed rail and urban project. A new railway for the third millennium Zaragoza. *Journal of Geography and Social Science*. p. 17

<sup>35</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 5

<sup>36</sup> Barcelona was connected to Zaragoza by traditional rail prior to HSR, so meetings could have occurred here prior to the introduction of HSR.

**HSR brought an increase in meeting and convention activity to Zaragoza.** Previously, meetings between professionals and executives from Barcelona and Madrid would have occurred in one of those cities, but the HSR connection created a convenient meeting place equidistant from both cities.<sup>36</sup> The station itself contains meeting spaces that support such usage. For similar reasons, Zaragoza also became more desirable for convention activity that would have previously taken place in larger cities on each end of the HSR system. HSR is credited with playing a major role in bringing the 2008 World Exhibition, among others, to Zaragoza.<sup>37</sup> Between 1999 and 2003, the number of major events held in Zaragoza increased from 422 to 451, or by 29 events. Between 2003 and 2007, this number rose by 89 events.<sup>38</sup>

**Tourism and hotel development increased after HSR service began.**

Tourism was found to be increasing in Zaragoza after HSR service was implemented, owing to the easier access from other cities.<sup>39</sup> In the four years prior to HSR service, the number of overnight stays in Zaragoza rose from 1,051,000 to 1,166,000, or by 115,000 stays, or 10.9 percent. In the four years after HSR service, overnight stays rose by 268,000 overnight stays or 23.0 percent.<sup>40</sup> The rapid increase in overnight stays was accompanied by the addition of five new hotels, containing a total of 562 new hotel rooms between 2003 and 2007.<sup>41</sup>

**Much of the station area remains undeveloped, but there has been construction activity of new office buildings in the vacant land parcels adjacent to both the station and pre-existing neighborhoods.**

This development is taking place on land cleared as part of the construction of the HSR station, and is slowly bridging the gap between

<sup>37</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 14

<sup>38</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 15

<sup>39</sup> Urena, J. M., Menerault, P., & Garmendia, M. (2009). The high-speed rail challenge for big intermediate cities: A national, regional and local perspective. *Cities*, 266-279. p. 271

<sup>40</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 14

<sup>41</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 14

the station and the remainder of the City. The amount of vacant space surrounding the station is likely a factor of the relative newness of the station, and the station area will likely fill in over the coming years.

**Zaragoza's current land use plan for the station area envisions 2.7 million square feet of park space and 1.6 million square feet of**



Source: Wikipedia

**residential space with approximately 3,400 units.**<sup>42</sup> The plan also includes providing major public spaces and a new green corridor along the Ebro River and the Exposition grounds.

### Supportive Public Policies

**The City created a publicly-owned corporation, the Zaragoza Alta Velocidad 2002 Corporation, to create development plans around the new station, the former station, and the land the former surface train tracks occupied.**<sup>43</sup> The Government of Aragon, the Development Ministry, and the City of Zaragoza formed the corporation, each holding a proportion of its shares. Shareholders include the Public Business Corporation of Aragon, Zaragoza City Hall, ADIF Alta Velocidad, ADIF, and RENFE Operator, thus national, regional, and local government, as well as the railway operators all have a stake in the long term goals of the station area.<sup>44</sup> Using this publicly-owned corporation, the City was able to ensure a mixture of uses around the HSR station, including office facilities, open spaces, housing, and public facilities. The public-private nature of the development partnership allowed the City to ensure the implementation of its vision.<sup>45</sup>

<sup>42</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 8

<sup>43</sup> Krause, D. (2010). Planning Transit-Oriented Development Around High-Speed Rail Stations in Fresno and Bakersfield. San Jose: San Jose State University.

**The City of Zaragoza used the HSR project as an opportunity to solve other connectivity problems within the City.** By depressing the existing tracks underground as part of the project, Zaragoza was able to better unite the north and south sides of the city center, as well as provide open space within a dense urban center. The submersion of the existing railway infrastructure also opened up areas for future redevelopment opportunities, removing a longtime barrier between neighborhoods to the north and south of the new station. Some development has already occurred on the newly created development parcels. The City of Zaragoza used the HSR project as an integral piece of an economic development plan that also included expanding and modernizing its traditional urban center through both the city masterplan for the area, and hosting the 2008 World Exhibition.<sup>46</sup>



Source: Google Earth Pro

**The 2008 World Exposition was decidedly a long-term investment around the HSR station area, with a majority of it carefully planned for future use or repurposing.** Many cities hosting large international events have been left with empty facilities that are expensive to maintain, but Zaragoza specifically ensured that the facilities would not only remain useful after the 2008 World Exposition, but that they would themselves help further the goals of developing the station area. With over 1.4 million total square feet, many of the structures in the

<sup>44</sup> <http://www.zav.es/en/zav/quienessomos>

<sup>45</sup> Urena, J. M., Menerault, P., & Garmendia, M. (2009). p. 276

<sup>46</sup> Garmendia, M., Ribalaygua, C., & Urena, J. M. (2012). High Speed Rail: Implications for Cities. Cities, 26-31. p. 29

area were preserved and converted to office buildings. Another 300,000 square feet was converted to government use, and other buildings in the area were preserved as meeting spaces, research centers, and various other uses such as restaurants and space for recreational activities.<sup>47</sup>

**The City combined HSR with major architectural achievements and international events to grow its brand.**<sup>48</sup> Zaragoza intended to relinquish its image as an old and historic city, and HSR was part of its plan to boost its new image as a modern metropolis. The City planned the Zaragoza-Delicias Station to become an icon of the City, illustrating the modernity of the City and intensely juxtaposing the architecture with the old city center. Some of the Station Area bridges built to connect the station to the World



Exposition grounds became local landmarks, particularly the Bridge Pavilion designed by internationally renowned architect Zaha Hadid. These events and developments would leave lasting impacts on the perception of Zaragoza in other parts of Spain.

**The station area was built at such a grand scale and distance from the city center that it lacks connections with the rest of the City.** Future development around the station may lessen that problem, but much of the immediate station area contains wide roadways, large open spaces, and grade separated pedestrian and automobile infrastructure. This scale and disconnect is unfriendly for pedestrian access to and from the station and as a result limits the development potential of the area.

---

<sup>47</sup> Krause, D. (2010). p. 41

<sup>48</sup> Alonso Logrono, M. P., & Bellet Sanfeliu, C. (2009). p. 8

## Lessons Learned

**Bakersfield should work to ensure seamless connections between the future HSR station and a station layout which allows dense development directly next to the HSR station itself.** While consideration must be given for automobile access to and from the future HSR station, efforts to make automobile access easier should not be at the expense of pedestrian access. A major state highway currently separates the proposed HSR station at F Street in Bakersfield from the rest of the downtown area. Bakersfield should explore ways to mitigate that barrier as part of the HSR construction project, using the construction of HSR as an opportunity to better reconnect parts of the station area.

**New HSR service can boost the Bakersfield brand.** Bakersfield can use the HSR service and development as an opportunity to redefine its image to both its residents and the remainder of the State of California. Fast and convenient access to coastal metropolitan areas will reduce the isolated nature that Bakersfield currently has in the Central Valley, and put the city on the map as a conveniently accessible destination for millions of people. HSR service represents an opportunity to build a denser and more pedestrian friendly Downtown area, and help build a unique city identity.

**Bakersfield can leverage HSR service to increase its convention activity and business travel.** Being near the halfway point between two of the largest metropolitan areas in North America represents an important opportunity for Bakersfield to leverage its location as a convenient meeting place for professionals and conference attendees from the San Francisco Bay Area and Southern California. While HSR service alone does not guarantee an increase in business tourism or convention activity, it opens up an opportunity that, in conjunction with other interventions to increase its attractiveness for such events, Bakersfield can leverage.

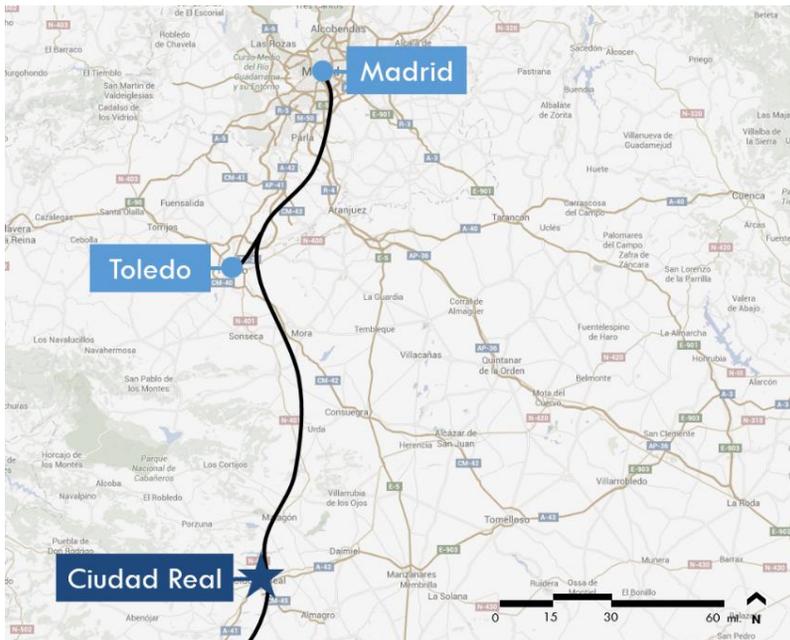
**Bakersfield can create a quasi-governmental entity to ensure it keeps some control of station area development.** While private sector projects will undoubtedly be major factor in development around the HSR station, Bakersfield can ensure the vision for the station area is adhered to if it is able to create a development authority to guide private sector investment into the station area. This ensures the station area is not underutilized for quick developer gains, and development is implemented with an eye for the long term.

# CIUDAD REAL, SPAIN

## HSR Overview

Ciudad Real is located in the south central area of Spain on an AVE HSR line to Madrid that continues to Seville. Service to the Ciudad Real Station, a newly built station just to the northeast of the historic city center, began in 1992 with an AVE HSR connection to Madrid. A HSR branch to Malaga, Spain, was completed in late 2007.

The City of Ciudad Real has no existing local rail transit system. Ciudad Real does operate a network of six urban bus lines. The City itself is very compact, and similar in size to the Study Area and Downtown Bakersfield.



## Context

The Ciudad Real metropolitan area, which includes the neighboring City of Miguelturra, is much smaller than the Bakersfield metropolitan area and contains only 90,000 people.

The city proper was home to approximately 75,000 people in 2014, smaller than the City of Bakersfield. Ciudad Real has a HSR travel time to a major city, Madrid, of approximately an hour, similar to that of the proposed travel time between Bakersfield and Los Angeles Union Station on HSR.

|                         |                                |
|-------------------------|--------------------------------|
| <b>Year Built</b>       | 1992                           |
| <b>Key Travel Times</b> | Madrid: 52 min                 |
| <b>Station Location</b> | Slightly Outside Historic Core |



## Neighborhood before HSR

Before HSR, the station area was at the very edge of the city. Many of the areas immediately surrounding the station area were vacant, but were slowly building up over time. HSR accelerated this growth, and

filled-in the remaining gaps between the historic city core and the HSR station. The area to the northeast, also relatively empty aside from a few older industrial buildings, later became the AVE Gate Business Park, development for which continues to this day.

## Real Estate and Economic Impacts

**According to local scholars, before HSR, Ciudad Real was having economic issues due to limited accessibility. Ciudad Real had been bypassed by rail lines and highways connecting Madrid to other cities to the south.**<sup>49</sup> In the first years of HSR service, the impact on



Ciudad Real's population was minimal, and both Ciudad Real and Spain as a whole grew very slowly during that time (0.02 percent and 0.37 percent respectively). The country was in a deep recession in the mid-1990s, and growth did not return until the very end of the decade. **Post-2000, Ciudad Real's population has outpaced Spain as a whole, growing 2.8 percent from 2000 to 2005, while Spain's population only rose by 1.5 percent.**<sup>50</sup> During this time nearby Madrid

<sup>49</sup> Catan, T. (2009, April 20). Spain's Bullet Train Changes Nation - And Fast. The Wall Street Journal.

<sup>50</sup> Instituto Nacional de Estadística

reached full employment, and Ciudad Real swelled with commuters, known as "Avelinos" who used HSR to work in Madrid.<sup>51</sup>

**Ciudad Real saw major residential development in the decades after HSR service began, but the City did not promote dense development in the station area.** While the station area did see, and continues to see, the existing vacant land and gaps filled in with residential development, much of the city's expansion has been in new districts on the outskirts of town. However, owing to careful planning on the part of Ciudad Real, most of this new residential and mixed-use development is not suburban in nature, but instead takes the form of relatively dense, mid-rise buildings on a pedestrian-friendly street grid. Many of the new apartments and homes built in the immediate station area are dense townhomes, however some 5-7 story mixed-use apartment buildings have also been constructed.

**Though the largest effects of HSR in Ciudad Real were on residential development, HSR also opened up new business opportunities and increased the competitiveness of its local educational institutions.** Indra, an information technology company,

moved a software factory to Ciudad Real in the late 1990s, citing AVE as one of the key aspects of their decision.<sup>52</sup> Additionally, according to a university



<sup>51</sup> Catan, T. (2009, April 20).

<sup>52</sup> Catan, T. (2009, April 20).

department head, the AVE HSR service is credited with helping recruit students and attract high-caliber faculty to the Ciudad Real campus of the University of Castilla-La Mancha.<sup>53</sup>

**After HSR service began, Ciudad Real approved the AVE Gate Business Park on the northeast side of the station, hoping to attract businesses and industries to the station area.** The results here have been more modest, possibly owing to the industrial land use and to the separation of this area from the rest of the city. Much of this area still remains vacant, and the buildings that have been constructed are generally low-rise warehouses and industrial buildings.

### Supportive Public Policies

**Ciudad Real, despite benefiting from the influx of residential demand from Madrid commuters, did not incentivize station area development.** Substantial residential construction occurred in Ciudad Real, but the City failed to focus a significant portion of this residential development into the station area. With no large public intervention in place, much of the development of residential in the station area was very low-density in scale, as opposed to residential developments being built in other parts of the city. While townhomes near the HSR station were better than vacant land, tighter regulation of land uses and higher density zoning may have brought a more successful station area to Ciudad Real. More recent residential buildings have included higher density buildings, but there are few opportunity sites left to the southwest of the HSR station. Additionally, many of the areas closest to the HSR station do not have a mix of uses, preventing what could have been a natural expansion of the City's historic core to the HSR station. It is unclear why Ciudad Real allowed the Station Area to develop so quickly at such a low density, but this illustrates the necessity for having a long-term vision for the area that can wait for the market to catch up.

---

<sup>53</sup> Catan, T. (2009, April 20).

**The AVE Gate Business Park illustrates the need to carefully consider the land uses chosen for the station area.** While the AVE Gate Business Park has been successful in attracting companies, the business park is low-density and likely a missed opportunity for a denser station area. However, the business park still contains large amounts of vacant land, so it is still possible Ciudad Real could still support and incentivize higher density, mixed-use development in this area. Bakersfield should carefully consider what types of densities of development it wants to see in the station area and prohibit low-density employment uses that do not further the transit-oriented development goals for the station area.



**One major constraint for developing the area may have simply been that the area is disconnected by the AVE tracks from the rest of the city,** and was largely built in a vacant area. Ciudad Real did ensure some connectivity; the roadway and pedestrian connections pass easily under the elevated tracks. It is possible the long distance from the activity centers in the historic city core limited the effects of these good connections.

## Lessons Learned

**Bakersfield can leverage HSR access to larger and more expensive metropolitan areas to promote residential growth in the station area.**

Many HSR commuters to Los Angeles may choose Palmdale as a place to live upon initiation of service, but over the long-term these population shifts could make Palmdale's housing stock more expensive, prompting some commuters to move to Bakersfield as an affordable alternative to Greater Los Angeles. Additionally, robust employment growth in Palmdale, as well as other HSR stations, could give rise to a population of commuters who live in Bakersfield but work in other employment centers along the line.

**Bakersfield should limit low-density uses surrounding the HSR station.** The industrial park on the north side of Ciudad Real's station, while modestly successful in attracting companies, is also not the best use of valuable station-proximate land. To the south of the station, much of the land was quickly filled with townhomes and relatively low-density residential development, while the few remaining open parcels are now being developed with higher density buildings. Bakersfield should develop density controls and phasing strategies to ensure that station area land is not developed too quickly or at too low a density to create a more vibrant activity hub. **A long term vision for the station area that can be implemented in a phased manner, is required to ensure the station area is not built out too quickly.**

**Connectivity should be ensured between the HSR station and the historic core, as well as within the station area itself.** Like the proposed HSR station in Bakersfield, the HSR station in Ciudad Real is slightly outside of the historic core. Bakersfield should work to ensure better connectivity between the proposed HSR station and the existing historic core, potentially including a fixed-rail transit connection in the longer term. Bakersfield should ensure the new HSR infrastructure does not become an added barrier, and should consider grade separations in lieu of street closures that do not harm the pedestrian connectivity of the area.

## PASADENA, CALIFORNIA

### Overview

**Pasadena is located in central Los Angeles County, approximately ten miles northeast of Downtown Los Angeles along the Metro Gold Line.** The City of Pasadena successfully revitalized its downtown area with new retail and substantial residential growth. This revitalization occurred without any supportive fixed-rail transit, as the Metro Gold Line opened to Pasadena in 2003, years after the rejuvenation of Old Town Pasadena was well underway.

After World War II, the construction of the I-210 freeway through the area resulted in the demolition of many historic buildings, and Old Pasadena, like many other historic city centers across the United States, began to suffer from residents and businesses moving further into new suburban areas.<sup>54</sup> **In the 1950s, local businesses formed the Pasadena Central Improvement Association (PCIA) to help solve parking problems and revitalize the central area.**<sup>55</sup> PCIA, and Pasadena's historical preservation society, Pasadena Heritage, saved Old Pasadena from redevelopment in the mid-1970s.<sup>56</sup>

**The City of Pasadena created a revitalization plan that focused on rehabilitating and preserving existing buildings, putting parking into structures with quality urban design, and eventually redirecting growth into the downtown area through zoning.** Today, Old Pasadena is a vibrant and successful retail center, and the area's residential population continues to grow. According to the U.S. Census

Bureau, the city was inhabited by nearly 141,000 in 2014, 19 percent of whom live downtown.

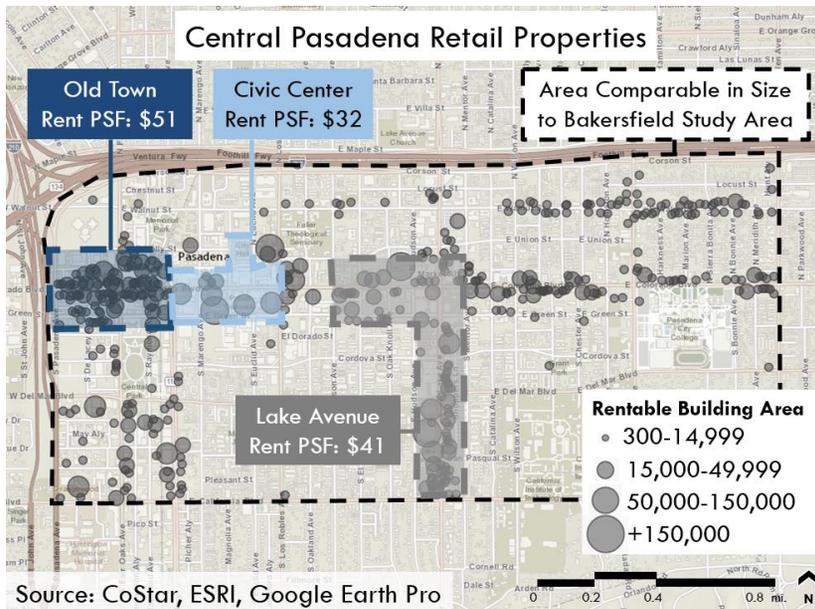


Within central Pasadena, retail is located in several clusters as opposed to scattered around the entire area. These major retail clusters include Old Pasadena, Civic Center, and Lake Avenue. The cluster with the highest rents, Old Pasadena, makes up only a small part of central Pasadena. Pasadena has successfully created several distinct complementary and connected retail districts, each serving a different need and purpose. Old Pasadena contains a multitude of smaller retail establishments under 15,000 square feet, while Civic Center and Lake Avenue are home to larger format retail establishments. These retail clusters are highlighted in the map on the following page.

<sup>54</sup> <http://www.oldpasadena.org/history1940s.asp>

<sup>55</sup> City of Pasadena. (2005). History of Efforts in Old Pasadena. Pasadena: City of Pasadena. p. 31

<sup>56</sup> <http://www.oldpasadena.org/history1970s.asp>



### Supportive Public Policies

Early policies towards Old Pasadena were focused on competing with new suburban shopping centers, trying to make the area easier for automobiles to quickly arrive and disembark like in new suburban shopping centers. **These policies largely failed because they applied a new suburban model to an urban area, becoming a larger detriment to local walkability instead of aiding a rejuvenation.**

After numerous proposals to demolish large parts of Old Pasadena, the City formed an Urban Conservation District and placed the area on the National Register of Historic Places. The City passed the *Plan for Old Pasadena* in 1978. **The key elements of this plan were prohibiting the demolition of historic buildings and adopting design standards for rehabilitating buildings in Old Pasadena.** Federal tax

<sup>57</sup> City of Pasadena. (2005). p. 31

incentives, as well as appreciating property values from the improvements, provided property owners and developers the economic incentives to steadily remake the district.<sup>57</sup> In the 1980s, the PCIA

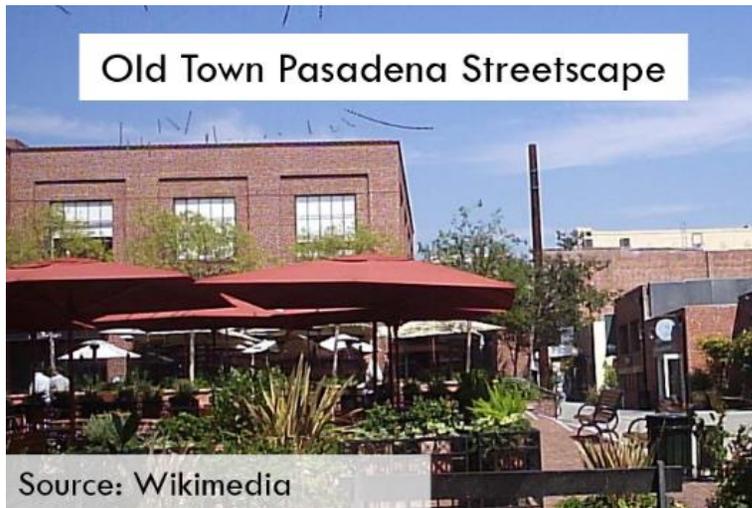


worked with its members to raise \$50,000 for a parking study by the City. This led to the Pasadena Redevelopment Plan being adopted by the City in 1983, with the primary purpose of the plan being to use tax-increment financing to develop public parking garages for the area.<sup>58</sup> **These garages were built with high standards in urban design and contained ground floor retail to avoid creating dead-zones in any part of Old Pasadena.**

Old Pasadena required a steady source of funds to continue to improve the district and keep it clean, so **in 1989 the PCIA transformed from a voluntary dues paying organization to a**

<sup>58</sup> City of Pasadena. (2005). p. 32

**merchant-based assessment district**, becoming the Old Pasadena Business and Professional Association (OPBPA). Using a sales tax sharing agreement, the association developed marketing and promotional programs. **The OPBPA also agreed to parking meters in Old Pasadena, revenue from which was used to improve the district's streetscapes.**<sup>59</sup> Beyond the revenue benefits, parking meters also incentivized more parking turnover on the street. Those parking for the full day would now use parking garages, while on-street parking was used for shorter trips.



**The City zoned for higher levels of residential surrounding Old Pasadena**, ensuring a steady influx of visitors to the shopping area at all hours of the day, and worked with Metro to assure the new Metro Gold Line did not interrupt the area's street grid when it was built in the early 2000s.<sup>60,61</sup>

<sup>59</sup> City of Pasadena. (2005). p. 32

<sup>60</sup> City of Pasadena. (2005). p. 33

**Finally, much effort was invested to make Old Pasadena pedestrian friendly.** Old Pasadena provides a well-connected and pleasant pedestrian experience, with easy crossings of busy highways made at all intersections. Additionally, Old Town includes pedestrian scramble intersections, which allow all pedestrian movements, including diagonal ones, at key intersections.

### Lessons Learned



**Bakersfield should leverage its downtown historic assets.** Bakersfield should pursue incentives for developers to rehabilitate its historic buildings, and encourage the upper floors of vacant buildings to transition to residential uses, bolstering the downtown population as a way to support local retail.

<sup>61</sup> The Planning Report. (2015, August 18). Pasadena General Plan Update Focuses Future Growth into Downtown & Around Mobility. Retrieved from The Planning Report: <http://www.planningreport.com/2015/08/18/pasadena-general-plan-update-focuses-future-growth-downtown-around-mobility>

**Creative parking incentives can support walkability in Downtown Bakersfield.** Encouraging long-term visitors to park in garages (which offer some hours of free parking, but are at a cost beyond that time), as opposed to street parking, may help to encourage walking around downtown as opposed to driving between each downtown destination. At the same time, metered parking could help ensure that Bakersfield's downtown street parking is not occupied by employees during the day, making it more convenient for retail patrons to find on street parking. Bakersfield should assure parking revenues collected in the Downtown area are spent on improving the public realm, lighting, safety, and making the area more enjoyable to visit and walk through.

**A Downtown Business Improvement District (BID) could improve the ability of Downtown Bakersfield to acquire resources to invest in itself and political capital to further the long term vision for the Study Area and Downtown.** A BID could encourage downtown stakeholders to invest in place to attract more businesses and visitors, further attracting new resources for new investment. This cycle of investment and attraction could strengthen the revitalization that has begun in the Downtown area.

**Bakersfield should improve the walkability of its Downtown, ensuring there are no impediments to easy pedestrian movement.** To do so, Bakersfield can ensure that there are signalized intersections with automatic walk signals on all busy thoroughways in Downtown and stop signs at every intersections on smaller streets, ensuring all pedestrian movement is easily made throughout the area. These policies also calm traffic, supplementing a pleasant pedestrian experience with greater pedestrian permeability. Traffic congestion should not be approached as a problem that needs to be solved through roadway expansion, but as a sign of a successfully revitalized Downtown Area. **Accommodations should be made for both drivers and pedestrians in the Downtown area, but when there is a conflict between the two modes the experience of walking in the Downtown area should be prioritized over the experience of driving.**

# VISALIA, CALIFORNIA

## Overview

**Visalia, located in the San Joaquin Valley, has improved its downtown area in recent years.** The downtown property owners worked together, forming a business association called Downtown Visalians in 1963, which helped improve the local downtown area into a successful small-town shopping district. Through improvements made to the district, the downtown area not only successfully competes with suburban shopping centers, but has been able to attract new development as well. Visalia was inhabited by just under 130,000 people in 2014, 1 percent of whom live downtown.



## Supportive Public Policies

**In 1997, downtown Visalia property owners formed a 0.3 square mile property based business improvement district (PBID) which helps pay for capital improvement projects, infrastructure, security, and maintenance.** Major efforts of the association include 24-hour

<sup>62</sup> Eiman, M. (2013, October 12). A tale of two cities: downtown Hanford at the crossroads? Hanford Sentinel.

bicycle street patrols, maintenance workers to clean up graffiti, and the installation of new pedestrian amenities such as street furniture and the planting of new trees.<sup>62</sup> The association also provides matching business loans within the



district and works as a political advocacy group to further the district's goals. These efforts have led to a rapid reduction in vandalism and crime in the district, improving the perception of safety for visitors and residents alike.<sup>63</sup> Capital improvements to the area include sidewalk bulb-outs, wide sidewalks with ample street furniture, other pedestrian amenities, and alley improvements.

Curating retail is another important action undertaken by the Downtown Visalians. Through voluntary efforts by property-holding members, the Downtown Visalians carefully strategized what types of businesses to rent to, namely retailers and restaurants, as those were the largest generators of foot traffic for the area.<sup>64</sup> The association also conducts its own independent market research and surveys to understand retail gaps or niche markets that exist or that new downtown businesses may be able to serve.

<sup>63</sup> <http://downtownvisalia.com/doing-business/pbid/>

<sup>64</sup> Eiman, M. (2013, October 12).

**Through these efforts, Visalia has been able to bring investment back into its downtown area.** One of the major recent developments in Downtown Visalia is Main Street Promenade, a development of over 60,000 square feet of mixed-use office, retail, and restaurant space that will be spread into four phases.<sup>65</sup> The first phase is now complete and occupied with one of the upper floors taken by a real estate firm.



shade trees and street furniture. Given the large geographic area encompassed by Downtown Bakersfield, investments will need to be prioritized into areas with most potential for catalytic impacts.

**Bakersfield can use surveys of existing residents and property owners to understand retail gaps in Bakersfield that could be addressed by downtown businesses.** Making the results of these surveys publicly available can help existing or future business owners tailor establishments towards the needs and desires of the area.

### Lessons Learned

**Bakersfield can attract investment into its downtown area before HSR service begins by aiding in the formation of coalitions among local downtown property owners.** If formalized into one or more business improvement districts, these coalitions can raise money for improvements, maintenance, and security in the downtown, as well as provide a unified voice for the downtown. An ongoing dedicated assessment district can bring much-needed revenue to augment public investments and maintain local improvements in the area, helping to generate more local foot traffic, which in turn generates more revenue for businesses. The oversight of local property owners ensures that funds are directed to actions that will make the largest difference in making the downtown more attractive.

**Short of local dedicated funding from a business improvement district, Bakersfield should incorporate capital improvements to downtown streets as they come up for maintenance and reconstruction.** These capital improvements could include wider sidewalks, bulb-outs at intersections, and pedestrian amenities such as

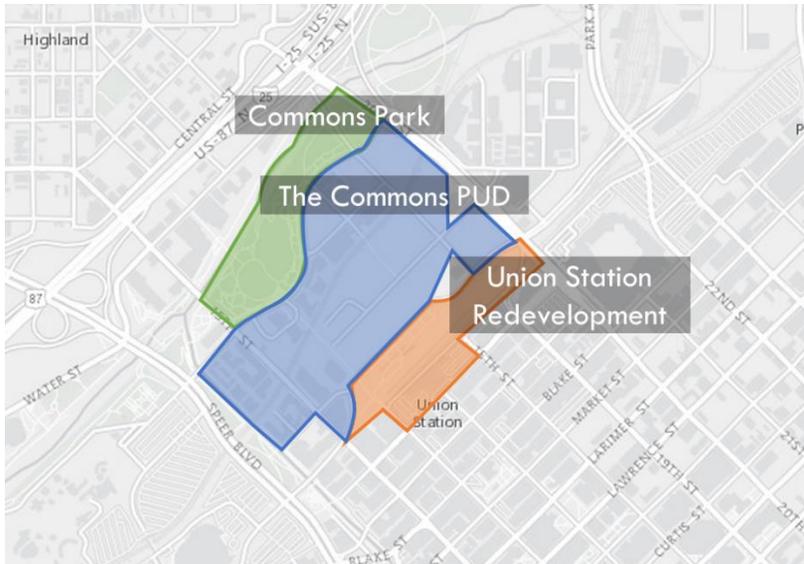
---

<sup>65</sup> Mangano Company. (2010, June 28). Main Street Promenade Under Construction In Downtown Visalia. Retrieved from Mangano Homes Inc.: <http://www.manganohomesinc.com/news-MainStreetPromenadedwntwn.html>

# DENVER UNION STATION

## Overview

Union Station is the gateway to downtown Denver. Redevelopment of the Station was a large scale transit investment for Denver that has anchored larger redevelopment efforts. The 127-acre Union Station district consists of three areas that are a mix of public and private ownership: Union Station Redevelopment (43-acre transit district that includes Union Station); the Commons (58-acre planned unit development); and Commons Park (26-acre open space amenity).



Under the Downtown Area Plan in the 1980s, the City and County of Denver consolidated the rail yard land under single-owner control, creating a highly desirable development parcel and facilitating 30

<sup>66</sup> Local entity is Denver Union Station Metro District, Regional entity is the Denver Regional Council of Governments, State entity is Colorado Department of Transportation.

years of transformative development. This project was driven by the public sector's focus on the need for regional public transportation, with funding and political support for transit investment coming from the Metropolitan Mayors Caucus. Union Station initially just contained regional Amtrak rail lines; redevelopment and station improvements are adding light rail, commuter rail, and bus connections, creating a large multimodal hub in Denver.

## Supportive Public Policies

**Denver Union Station is a public-private partnership** with a jointly funded Intergovernmental Agreement among the Regional Transportation District (RTD), the City and County of Denver, the Colorado Department of Transportation and the Denver Regional Council of Governments. RTD acquired the station facility and adjoining 20 acres and rezoned it for mixed-use development. RTD then joined with several other entities from local, regional, and state levels to form the Denver Union Station Project Authority (DUSPA) to oversee project execution.<sup>66</sup> DUSPA selected Union Station Neighborhood Company

(USNC), a joint venture, as the master developer.<sup>67</sup> USNC in turn assembled a design-build team to facilitate decision-making and ensure project delivery. Completed and future development includes 3,000 residential units, 4.6 million square feet of office, 550 hotel rooms, and 15 acres of parks and plazas.



<sup>67</sup> Union Station Neighborhood Company (USNC) included private developers, East West Partners LLC and Continuum Partners LLC.

**A combination of federal grants, loans, and value capture strategies paid for the Union station and surrounding area infrastructure projects.** Funding included State, regional, and local contributions including those from RTD, grants from the FHWA and FTA, as well as proceeds from land sales. Denver Union Station was the first transportation project to combine the two major federal loan programs, the Transportation Infrastructure Finance and Innovation Act (TIFIA) and the Railroad Rehabilitation & Improvement Financing (RRIF) because of its unique ability to “promote transportation mobility and strong communities” on such a large scale.<sup>68</sup> In 2004, Denver metropolitan area voters approved a 0.4 percent sales tax increase for FasTracks. The FasTracks sales tax, TIF revenue, RTD contributions, and the lodgers tax covered the debt service for the TIFIA and RRIF loans.

**The Commons development is a private redevelopment** with public contributions. After extensive public negotiation, Burlington Northern sold 185 acres to Trillium Corporation including the railyard adjacent to Union Station. Trillium then sold 26 acres to the City of Denver for the Commons Park and entitled the Riverfront Park site for high-density mixed-use development through a planned-unit development process.

**Outside of the immediate Denver Union Station area, the City also prioritized investment in connectivity, the public realm, and open space to establish links with the surrounding neighborhoods.** Commons Park was paid for by the City of Denver, and organized through the



Greenway Foundation, a non-profit mobilized private foundation money to revitalize South Platte River. Costs for the Millennium, Highlands and Union Gateway pedestrian bridges were shared between the City of Denver, East West Partners, a private developer, and the Central Platte Valley Metropolitan District (CPVMD), a taxable entity that levies property tax for site-specific improvements and infrastructure.

| Transit Investment Timeline |  |
|-----------------------------|--|
| 1971                        | Amtrak provides limited intercity passenger rail service to Union Station  |
| 2002                        | City of Denver extends free 16 <sup>th</sup> Street Mall shuttle service to Union Station  |
| 2002                        | RTD C-Line light rail enters service, with a terminus at Union Station   |
| 2006                        | RTD E-Line light rail enters service, with a terminus at Union Station   |
| 2013                        | RTD W-Line light rail enters service, with a terminus at Union Station   |
| 2013                        | Downtown Bus circulator is implemented connecting Union Station to Civic Center area along 17 <sup>th</sup> and 18 <sup>th</sup> St. |
| 2014                        | Regional bus terminal opens  |
| 2014                        | Union Station reopens with Crawford Hotel  |
| 2016                        | RTD East Line commuter rail is scheduled to open, with direct service to Denver International Airport                                |
| 2016                        | RTD Gold Line commuter rail scheduled to open with a terminus at Union Station   |
| 2018                        | RTD North-Metro commuter rail scheduled to open with a terminus at Union Station   |

<sup>68</sup> [https://www.fhwa.dot.gov/ipd/news/archives/denver\\_union\\_station.aspx](https://www.fhwa.dot.gov/ipd/news/archives/denver_union_station.aspx)

## Lessons Learned

**Denver leveraged its transit investment for larger development planning in the surrounding area.** Bakersfield can utilize the investment that will take place with high-speed rail as a catalyst to pursue its development vision and goals for its downtown.

**Public-Private investment was critical for creating destination grade amenities.** Public and private investments in open space and pedestrian walkways can establish links to the surrounding neighborhoods and set the stage for further value. Payment for these public realm investments can be shared by the public and private sectors, depending upon land ownership, value capture opportunities, and market conditions.

**Supportive planning and zoning policies aided in this redevelopment,** intentionally having the station area development as a continuation of the rest of the LoDo neighborhood. Bakersfield should consider how zoning and planning efforts can connect the station area with Downtown Bakersfield. Incentivizing a mix of uses and allowing for density will create activity and vibrancy in this area, in a manner that is not only aligned with the City's urban vision, but also attractive to private developers and investors. Furthermore, station area development that complements and is connected to other parts of downtown will support the creation of a more cohesive district.

**In Denver, a city-led effort to consolidate railyard space created highly desirable development parcels under single-owner control.** Bakersfield should consider how, with the termination of redevelopment, it can and will incentivize the kind of development it wants to see in the surrounding station area. Land assembly is one methodology, but ultimately the process was driven through a partnership between the public and private sectors.

