Village Station
A Sustainable Transit Oriented Community
Valparaiso, Indiana

Comprehensive Project, Spring 2008

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Acknowledgements
Millions of people commute to work every day in the United States, many of whom that live in larger metropolitan areas spend an hour or more one way. With issues like global warming and high oil prices adding time in cars simply idling on the highway is both damaging our environment and costing people money. There has even been a report done that said if people on the highway could cut just five minutes of idling out of their commute it could save 180 gallons of gas a day. The typical response to this is to create more highways with more lanes which then inevitably creates more sprawl which then bring back the congestion.

This is why there has been a movement away from the typical way of community development. One way that has been in practice for decades that is now starting to take hold again is transit oriented developments (TODs). The key to the popularity of these designs is their centralization around a transit hub, typically a commuter rail station. This allows people to live away from the city but still have many of the amenities in their own community as well as the ability to access public transportation to take them quickly and easily to the urban areas.

"Transit Oriented Development as an approach to combat traffic congestion and protect the environment has caught on all across the country. The trick for real estate developers has always been identifying the hot transportation system. Today, highways are out; urban transit systems are in."

-The Urban Land Institute (ULI)
The city of Chicago is the third largest in the United States today. Like most large cities it is surrounded by suburbs and sprawl that goes on for miles. This creates traffic congestion in cities that are 40-50 miles away simply from people that are radiating out from the cities. Many these people work in the city but can’t afford to live there or in any of the neighboring areas due to high cost of living. However many of these people are starting to realize the benefits of the commuter rail system that is available to them at a much lower cost than driving and parking could be and the time saving since they can be productive while they travel now.

Having realized the benefits of having these stops in other cities Valparaiso, IN has began looking in to adding a light rail commuter station in their town on a track that is being proposed to run to Chicago and Fort Wayne. While having the station would be a great asset to the city allowing for development on the site would give the city the much need density need to keep its current population increase continuing. Not only would it be a great residential boost for the city but with its location to the downtown area it could become an amenity for the entire city with shopping and office creating more jobs in the city itself.

Introduction
The city of Valparaiso, IN has proposed the construction of a commuter station on the tracks to the south of the city as a way of transporting people to Chicago on a daily basis in order to speed up the commute time that many that live in the area face.

With the construction of this commuter station there will be an increase in the demand for housing, especially with easy access to the station. This development will need a range of density to allow for mixed incomes and diversity of needs. The denser areas of residential will consist of town homes with smaller front yards and more space in the back with garages and alley ways. The less dense areas of residential will be a combination of multi-family homes and single family homes that will have larger front yards while still have the garages in the back with alleys.

To create jobs and an interest in the area from the outside areas there will a commercial area. The commercial area will take on the characteristics of downtown Valparaiso while offering both shopping and living. All the buildings in the commercial area will be placed directly on the sidewalk and will have rear access for delivery needs. Sidewalks in this area will be larger than the residential and will include a buffer from the street and bike paths that they are next to.
In the commercial area there will also be a core street which will have commercial only buildings lining a boulevard street. Going throughout the site will be a system of biking and walking trails that will allow the residents to easily access the entire site without a car as well as bring people from other areas into the site. There must also be a decent percentage of open space conserved or turned into park space that can be used and accessed by all the residents in the site. Water retention will also be needed to handle any run off that might occur do to the creation of impermeable surfaces. This water will as need to be filtered in some way before leaving the site if it leaves at all. It would be preferred that if the water can be collected and used on site that that would be better.

There is currently a waste water treatment plant on the site the will most likely not move so if there is an option that could make it better that can be proposed but with it intact it will need to be buffered from the commercial and residential parts of the site. All this must be done with consideration that the existing wetland that is on the south end of the site and the stream that runs through it will remain untouched.
How do you design a community that encourages people to use alternative means of travel, such as public or pedestrian transit, and what can be done to minimize the impact on the existing environmental conditions on the site such as the water quality of existing water ways and wetland areas?

- What design characteristics of a transit oriented development encourage people to utilize a light rail system?
- What design characteristics are needed in a community to encourage pedestrian circulation rather than vehicular?
- How do you protect or improve the quality of existing water sources on site, such as creeks and wetlands?
- Can a 260 acre mixed-use community retain, filter, and re-use all the runoff water that it creates on site?
- How do you provide space for light industry as well as a water treatment plant in a mixed-use community?

Problem Statement
Project Significance

This project will become the gateway to the city of Valparaiso for people using the commuter rail as well as a place to live and work for many. The city of Valparaiso is growing quickly with its vicinity to Chicago and all the amenities that it has to offer. However this project will bring all the needs of a community with the benefits of living next to the downtown of Valparaiso all while being just a train ride away for the Chicago. This will allow people to be able work in the Chicago area while still being able to afford to purchase a home or rent in an area that is progressive.

Project Requirements

This project has been implemented with the consent of the city of Valparaiso to create a mixed use development on the south end of downtown in relation to a proposed commuter rail station. The site has included a transit depot consisting of the commuter station, retail, and parking. Surrounding the transit depot are a group of mixed use and retail buildings that create a livable community by supplying the residents with shopping but also increasing the density of living space on the site. However to increase the marketability of the site townhomes, multi-family units, and single family units were placed throughout. Creating all this built space meant there would be a large increase in runoff from the site so it was important to the city that this would be dealt with on site. It was also important to take into consideration the possible odor form the waste water treatment plant and possible ways to reduce this.
Prospect
Longmont, CO

- Developed by a family member of the tree farm that was once on the site, the goal was to set to build a unique community that minimized the impacts on the land.

- Duany Plater-Zyberk worked with the developer to create a New Urbanist community with a combination of commercial and residential lots with uniquely designed buildings and neighborhood friendly streets and open spaces.

- Completed in the early 90's, Prospect has won numerous awards and has been the subject of several articles and books about New urbanism.

Case Studies
“Prospect: Expectations and Enthusiasms”
- Places, A Forum of Environmental Design

“The Gap Between the Promise and the Prototype”
- Architectural Record
Prairie Crossing
Grayslake, IL

- Prairie Crossing was designed to conserve the open space that was the existing prairie while providing easy access and commuting to the city of Chicago by rail.

- The site was purchased by a group of neighbors that wanted to see the site developed responsibly forming Prairie Holdings Corporation.

- While construction of the project started back in the early 90’s the condominiums are just now being finished.
Guiding Principles

1. Environmental protection and enhancement.
2. A healthy lifestyle.
3. A sense of place.
4. A sense of community.
5. Economic and racial diversity.
6. Convenient and efficient transportation.
8. Lifelong learning and education.
9. Aesthetic design and high-quality construction.
10. Economic viability.
The site is located in Valparaiso, IN approximately 50 miles southeast of downtown Chicago, IL. Within the city of Valparaiso the site is located in-between two Norfolk Southern rail lines just south of the downtown.

Site Context
Located just south west of downtown Valparaiso, IN across a Norfolk Southern rail line. The site is also just about a quarter mile from the site as well.
Points of Interest
Around the Site

1. Valparaiso Technical Institute
2. Ken Pifer Park
3. Benjamin Franklin Junior High School
4. Central Elementary
5. St. Paul School
6. YMCA
7. Public Library
8. City Hall & Post Office
9. Porter County Courthouse
10. Will Park
11. Westside Park
Transportation
Around the Site

- Bordered to the north and south by Norfolk rail lines
- Bordered to the west by Washington Street that links Us-30 to IN-130
- IN-130 across the tracks to the north becomes the main downtown street of Valparaiso
Topographic Data
Around the Site

- Two high points on the site at the north and west push nearly all the water to one low point.

- At low point the water is gathered enters Salt Creek and leaves the site to the south.

- The existing wetland is located in low land area of site.
Opportunities
Around the Site

• New train depot can be utilized for communities to Chicago
• Connections with major roads area the site allow easy access from the site
• Low spot with existing wetland that can be used for site water retention
• Salt Creek can be utilized for trail system
Constraints
Around the Site

- Existing waste water treatment plant
- Existing commercial structures
- Noise from rail lines
- Existing wetland and flood plain surrounding it
The city of Valparaiso, IN has proposed the construction of an urban commuter to the south of the city as a way of serving as a public rail station to transport people to Chicago on a daily basis. The station will be one part of a village made up of place to work, shop, eat, and live all within walking distance of downtown Valparaiso.

Program
Residential

- To create a range of density and to allow for mixed levels of income there will be three main housing types that are strictly residential.

- Multi-Family Housing will be used to allow more people to live on the site that might not be able to afford it otherwise.

- Urban Town Homes will create a more downtown feel for the site playing off the commercial core and will allow for a denser population on the site.

- Single Family Housing will be included to increase the market-ability and variety of the community.

Commercial and Mixed-Use

- Create a commercial core that takes on characteristics of downtown Valparaiso while still keeping the downtown within walking distance for easy access.

- There will be commercial use intermixed with the transit station area allowing it to flow into the core or the downtown.

- Outside the commercial core mixed-use will be integrated into the top floors of the commercial buildings allowing for a desirable yet dense living area.

- The commercial and mixed-use area will be oriented to the pedestrian with parking scattered but mostly outside of this area.
Circulation and Trails

- Establish strong circulation paths through the site for vehicles using distinct street patterns that are appropriate to their use and the adjacent buildings.

- There will be a distinct hierarchy of street within the pattern so that the driver will know when it is important to watch for pedestrians.

- Through the commercial core there will be a boulevard with parallel parking on both sides for retail access and a dedicated bike lane next to that.

- Single family housing will have smaller two way streets with parking on one side and with alley ways in back.

- Trail system that goes throughout site will link key areas together and neighboring areas for both people walking and biking.

- Use space between sidewalks and roads or medians for swales and run-off collection to be taken to the retention pond.

Open Space/Environmental Concerns

- Open space will be integrated throughout the development to allow easy access for people living in the development as well as the surrounding area to access.

- Open space will contain both hard and softscape, such as plazas and fields.

- The existing wetland will be used to retain run off from development by being turned into a retention pond.

- The retention pond will be buffer from direct runoff through the use of bioswale filtration before it reaches the pond.

- The creeks edge will be naturalized with vegetation to help prevent erosion and to better its appearances.

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Low Density Concept Data

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Conceptual Design

Village Station 31
### High Density Concept

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*Conceptual Design 32*
The final master plan for the project became a combination of the two concepts along with input and review from others during the design phase. Entering into the site from IN-130 there is easy access to the new transit station and the retail around it. The site then continues into the commercial core along the main road that bisects the site from northeast to southwest ending near the retention pond. Outside the commercial core is a group of surrounding buildings housing commercial on the first and second floor with residential above. In these areas there is also surface and structural parking. On the northwest corner of the site there are several multi-family buildings that look similar large single family units except divided into three to four units. On the other end of the core area are several single family units and townhomes to increase marketability and value to developer.

A major concern to the city of Valparaiso was to keep the extra runoff created from all the non-porous surfaces so there is a large retaining pond as well as a smaller one to collect runoff. In addition to the ponds there is also extensive water collection and filtration throughout the site. Salt Creek that runs through the site from the west and out the south will be naturalized through the use of plantings and proper edge slopes. Finally to keep the site walkable and energetic there have been trails and sidewalks designed in to allow easy circulation without the need for a car and make it a dominate feature that defines the site.

Master Design
Commercial Core
Street Character and Detail

Sections
Creek Edge
Character and Detail
Parking Lot
Swale Detail
With the ever growing commute times and developments that stretch out farther every year the need for projects like this one become more and more prevalent. It is assumed that people will continue looking for work in larger cities but for those that do they should not be relegated to live in inhospitable areas or poor design developments. The daily needs of a person should not require someone to get in a car whether it’s the need to go to work, play in a field, or simple pick up some food. This is why projects like this are so important these days.

While the city of Valparaiso is very interested in this project there are still three things that would be resolved and worked out before the project could move forward.

Conclusion
The first would be to confirm the base information that has been put together in this plan. Studies of the wetland that is existent on the site and the soils that surround it to see that it can support a retention pond. As well as studies to confirm the topography, utilities, and the traffic circulation flow where it has been connected to the site of rerouted.

The second need would be to negotiate with the city council and land owners that currently have lots within the sites boundaries. The city council will also need to approve the creation of the transit stop and the construction of a new commuter station for the city of Valparaiso.

Finally the need for financial backing would be required. Current land owners would be encouraged to participate as well as other private investors. A portion of the project would hopefully be paid for by the city of Valparaiso as part of their Connections 2030 Transportation Plan that allocates public funds for use in projects that enhance and improve road ways as well as regional stormwater facilities.


References


Proposed and Existing Rail Stations
Proposed Entery to TOD

Proposed Rail Station and Commercial Outlet

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