West University Neighborhood Housing Condition Assessment

Draft Report:

Prepared for:

City of Eugene
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August 2004

Community Planning Workshop

Special Thanks & Acknowledgements

Community Planning Workshop wishes to thank staff from the City of Eugene Planning and Development Department for their assistance on this project. Specifically, Marsha Miller and Richie Wienman for their review and input on the household survey and external condition assessment criteria.

We would also like to thank Marc Schlossberg, PhD. and Darren Wyss at the University of Oregon for his assistance in developing an ArcPad application for the field work.

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Appendix C
External Condition Evaluation Methodology

Housing Assessment Criteria

A key component of this project was an external condition assessment of homes evaluated in the West University Neighborhood. The WUN is roughly within the perimeter of E. 19th St., Kincaid, Broadway, and Willamette.

The first step was to establish evaluation criteria. CPW started by reviewing past housing assessment surveys on the Web, as well as a housing survey Professor Schlossberg (UO-PPPM) had supervised at the University of Michigan. The review identified a number of commonalities in the criteria used by external condition assessments.

CPW used this information, along with criteria identified by City staff, to develop a matrix that assigned a numerical rank to the condition of different housing elements. The eight elements included in the assessment were foundation; stairs, rails, and porches; roof, gutters, downspouts, and chimney; exterior surfaces; windows and doors; driveway; sidewalk; and landscaping. Each criteria was given a numerical ranking that coincided with a short explanation - well maintained, moderate maintenance, minor repair, moderate repair, major repair, and not salvageable. The short explanations/ranking were defined within the matrices (see *Evaluated Elements* table at the end of this appendix). For example, a driveway that was uneven with more than one crack would receive a ranking of "moderate repair" or 3. The better condition of a house element the higher numerical rank it would receive.

The numerical rank is a tool to quickly evaluate the condition of a home when evaluating the completed data. A home in perfect condition can receive a maximum score of 48 if all of the elements are rated as well-maintained.

Where an element could not be seen the element received a 0 ranking. The condition of these homes may be evaluated by using a different numerical formula that discounts the missing element(s). This is done by converting the ranking to a percentage and adjusting what the percentage is based out of, excluding the 0 rankings. Percentages allow all of the homes to be included and compared.

Housing Assessment Methodology

CPW evaluated dwellings in the WUN using "windshield" survey techniques. This was done using a handheld Personal Digital

Assistant, better known as a PDA, and the GIS program ArcPad. First, the housing structure type was documented. Second, conditions of different elements of the housing structure were evaluated and documented. Finally, if there was something unusual that did not fit into any of the descriptive categories but might be important it was documented as well.

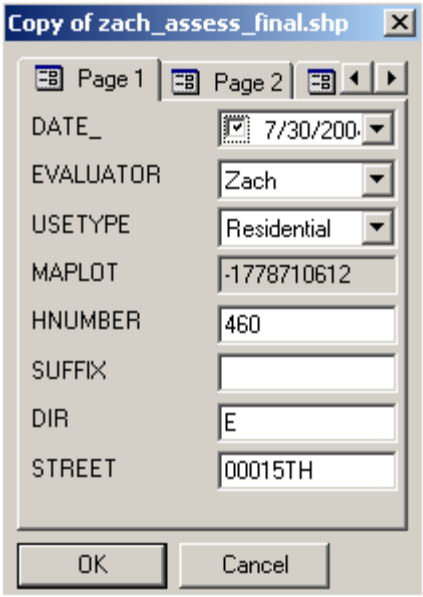
A windshield survey is typically done by a person collecting data while in a car, which is why it is called a windshield survey. The methodology is designed to get data quickly. However, this type of survey may not be as detailed as other surveys that require more interaction. The windshield survey for the WUN was conducted on foot. A graduate student from the University of Oregon's Community and Regional Planning Department walked through the streets and alleys of the neighborhoods documenting the condition of homes and input the data into a PDA.

The PDA provides advantages over implementing the survey using a more traditional paper and pencil method. Using the ArcPad GIS program, a data form was designed and integrated with an aerial photo, parcel map, and street map of the area being analyzed. This allowed the user to select a parcel from an aerial photo in the PDA with a stylus and get a data form to come up that already had the address, tax lot, and zip code data filled in. Then the surveyor could quickly fill in the missing data in the appropriate description fields.

PDA with Map View

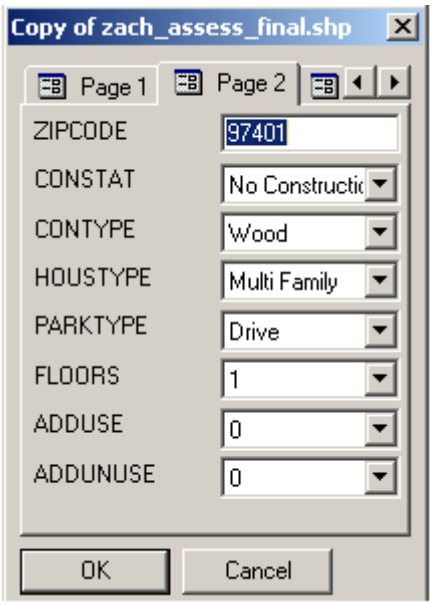
Tabs

The PDA had some limitations. The biggest problem was the size of the screen. To get beyond this problem tabs were created that opened up four different pages in the PDA where data was input.



Page 1 tab: The first field was a checkbox next to the days date, checking the box would record the day when the data was gathered. The next field is where the evaluator was chosen. Because only residential structures were to be analyzed the next field on this tab allowed the surveyor to pick either "Residential" or "Non-Residential." If it was a non-residential parcel then the surveyor was done collecting data for it and could move on to the next parcel.

Address data could be changed if it was not accurate using a small touch pad keyboard and the PDA's stylus. For address data there were four fields that included the street, number, suffix, and direction. The suffix was an indicator for multi-family residence and came up as "½" in the field. Direction was used for streets that had a direction in their name; however, all of those streets came up as "East" because of the size and location of the survey area.



Page 2 tab: the first field, the zip code, was automatically filled in. In a handful of records zip codes needed to be typed in. All of the homes in the study area fall within the 97401 zip code area (however, one home was inaccurately entered with a 97402 zip code.) The next field was the construction status. There were three choices: new construction, rehab construction, and no construction. These described the current state of construction for the building. If a building was either being constructed or had clearly been built within the last year it was documented as new construction. If an older home was undergoing major construction; such as being re-roofed, stripped and painted, or a new driveway being laid; then it was documented as rehab construction. The majority of homes were documented as no construction, which meant that there wasn't construction being done beyond just regular maintenance.

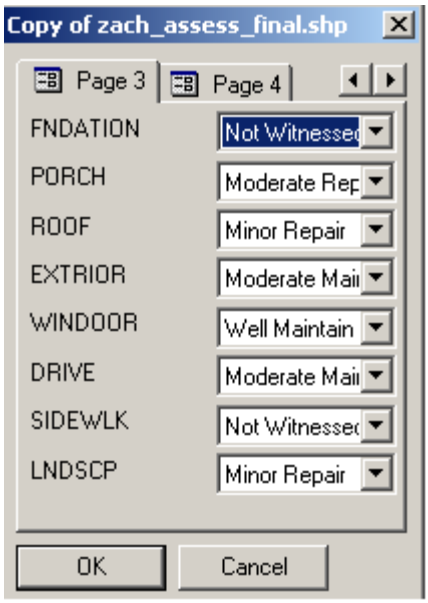
What the home was constructed out of was documented in the next field. There were five choices in this field: wood, brick, stone, stucco, and other. It was important for this information to be included in the survey, especially when you were evaluating the condition of the exterior. Knowing what a home was constructed helped illustrate the picture of its condition. Brick buildings usually were not painted and the condition of mortar didn't matter when evaluating a home made of wood. There were a few homes that were constructed of more than one element. Those structures were assigned what appeared to be the dominant construction material. A home that was 75% brick and 25% stucco would be assigned brick in this field. There were also a few buildings that appeared to be built out of something that was not one of the programmed choices; they received the "other" assignment.

Then the housing type was documented. There were three choices: single family, multi-family, and apartment. This was surprisingly difficult. Single-family homes had to have one main entrance, one mailbox, only one doorbell, and could not have another separate housing structure. However, it was evident that many of the single-family homes had people living in some sort of group living situation. On the other hand, multi-family homes had to have at least one of the following: more than one main entrance, more than one power meter, more than one mailbox, another housing structure, more than one doorbell. At the same time they couldn't have elements that would qualify them as apartments. So the housing structure could not have been designed to house more than 5 families, have a large parking facility, an onsite management office, or any signage calling it an apartment. Conversely, if a housing structure had those elements it would be designated as an apartment.

The surveyor then evaluated the parking that was associated with the structure. There were five choices: street, drive, drive with garage, yard, or other. The parking type might show whether there is adequate parking capacity for the number of people living in the area, which could influence who lives in this part of town. While choices from the matrices are straightforward, CPW encountered some anomalies. For example, a drive could be a driveway next to a house for one or two cars, or a large parking lot next to or under an apartment. A "drive with a garage" necessitated a closed structure to store an automobile. So apartment buildings with large enclosed garages would receive the "drive with garage" designation, as well as houses with garages. It should be noted that a home with a drive and garage did not mean all the automobiles for people living there could be parked in the drive and garage.

The last three fields on Page 2 asked for the number of floors to a living structure and whether there are any additional usable or unusable structures. The number of floors helped to describe the type of structure. Additional usable structures ranged from garages to additional houses or apartments on the same parcel. Unusable structures would be structures that were in such a state of disrepair

that they could not be used at all. There were not any structures that fell within the additional unusable structure category.



Page 3 tab: This page is where the evaluation matrix was integrated into the PDA form. The first housing element to be evaluated was the foundation. Most homes have at least some of their foundations exposed so that a quick analysis can be made. The most notorious problem with foundations was cracking. Small "hairline" cracks generally warranted a "moderate maintenance" categorization. As frequency and size of cracks increased the categorization got worse. There were a few homes where the foundation was obstructed from view and not witnessed.

Then the condition of stairs, rails, and porches was reviewed. Many of the older houses just had a few concrete steps that lead to the front door, often without any railings. Conversely, many two to three story apartment buildings had large porches that doubled as walkways, with many stairs and railings. This provided a challenge to evaluate because there were significantly different sizes of porches. Using the matrices helped since it considered proportionality in ranking.

Evaluating roofs, porches, and chimneys was challenging. This was because there are quite a few barely sloped and flat roofed homes. Since the roof was the main part of the element for this category, if it could not be viewed it received a "not witnessed" or 0 ranking for the element. There was a broad range of conditions for roofs. Many roofs had moss problems; this often was in conjunction rotting roofing material and beams that supported the roof. Roofs were somewhat of an indicator for the condition of a home. If a home had a roof that needed at least moderate repair it almost always needed other significant repairs to its other elements. However, there were homes where it was evident they had recently been re-roofed but the rest of the home needed repairs.

After assessing the roof, the exterior surface of the home was evaluated. To make an analysis of the condition of the exterior, the paint, siding, and any exposed structural elements were examined. This could be difficult because there were homes that had recently been painted but had evidence of rotting or poorly stripped paint underneath the new paint. If there appeared to be rotting then the home received the appropriate ranking based upon the matrices. If a home had been painted and it was textured from older paint that had not been stripped well, but there appeared to be nothing else wrong, it received a "moderate maintenance" ranking. Homes that had undergone this

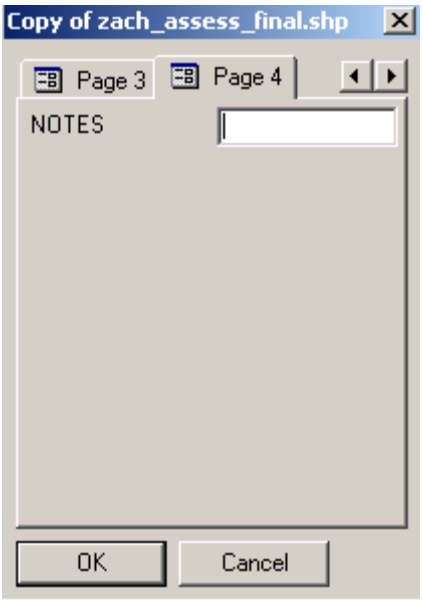
shortcut maintenance a year or two earlier had bubbling and cracking problems. When examining stucco homes cracks and water damage were important to look for.

Windows and doors were the next element to be evaluated. This analysis included assessing whether door and window frames were rotting, glass and screens were intact, there were bent parts of frames, and there were holes or bowing in doors. Window frames were made of either wood or metal. But, neither type of frame was considered better than the other.

Driveways were evaluated primarily on the condition of the concrete, and the deterioration caused by the amount of cracking and buckling. However, there were a few gravel driveways. If these driveways didn't have potholes, a clear parking area, and had well maintained gravel they could receive a "well maintained" ranking. However, the driveways with many potholes, deep potholes, and less evidence of maintenance received lower rankings. "Volunteer" parking on lawns received a ranking of "major repair," especially if there was evidence that it was routine.

Sidewalks were evaluated similar to driveways, the amount of cracks and buckling were what determined the condition of a sidewalk. Sidewalks often suffered from being uneven because of tree roots that were pushing it up. Many of these suffered from cracking problems. Still, there were some sidewalks that were uneven but did not have cracks and they received a better rating. A sidewalk that was in the process of being laid received a "well maintained" rating.

The last element to be reviewed was landscaping. The original matrices had to be changed after doing some of the evaluations because it was designed primarily as a tool to determine if a lack of maintenance had allowed yards to become overgrown. It was soon discovered that in late July the other extreme needed to be considered as well. A number of homes had lawns that had areas of exposed dirt that were a result of not watering the yard. The matrices needed to be adjusted to take into consideration barren areas and holes on yards. However, a yard that was completely brown, but didn't have barren spots and seemed to be in good condition otherwise could receive a "well maintained" ranking. Also, trash on a yard was not taken into consideration in the matrices, but it was documented on the Page 4 tab. Without exception, houses with garbage on their yards had poor rankings for landscaping and other elements.



Page 4 tab: This page acted as a catchall for conditions of homes that were unexpected. There was a comment field that would accept up to 200 characters (i.e. letters, numbers, spaces, and punctuation) where the surveyor could type in

observations that may be important but were not represented by the matrices. This field was important when a parcel had more than one housing structure on it. The comment field allowed for a brief analysis of these extra structures.

The PDA eliminated the arduous task of retyping all of the data into a computer. This was because the data being input to the PDA was automatically going into an easily downloadable electronic database. Once all the data was collected it could then be downloaded into a computer where it could be analyzed.

Table C-1. External Housing Condition Assessment Evaluation Criteria

EVALUATED ELEMENTS	6 Well Maintained	5 Moderately Well Maintained	4 Needs Only Minor Repair	3 Needs Moderate Repair (Up to 1/4 of element needs repair.)	2 Needs Major Repair (Up to 1/2 of element needs repair)	1 Not Salvageable (Majority of element needs repair.)	Score
Foundation – The wall of poured concrete, concrete blocks or stones that support the weight of the house.	Does not need immediate maintenance.	Some peeling or cracking in the protective surface over only a small portion.	A few small cracks, small amount of missing mortar, a small hole over a small area of the surface.	Cracks, missing mortar, loose or broken surface over a moderate portion. No evidence of settling or out of vertical alignment.	Cracks, missing mortar, loose or broken surface over a large portion. Some evidence of settling or out of vertical alignment.	Cracks, missing mortar, loose or broken surface over a majority of the foundation. Evidence of major settling or out of vertical alignment.	
Stairs, Rails, Porches – Steps and risers from level to another; the bar used for a handhold; area adjoining an entrance to a building and usually having a separate roof.	Does not need immediate maintenance.	Paint needs minor touch ups.	One missing, broken, or cracked step, riser, baluster, handrail, or railing that needs minor repairs or paint.	More than one missing, broken, or cracked steps, risers, balusters, handrails, or railings that need minor repairs or paint. Not a serious safety concern.	Between 1/4 to 1/2 of the step, risers, balusters, handrails, or railings are missing, broken, rotting, or cracked. Hazard of tripping or falling because of disrepair.	A majority of the steps, risers, balusters, handrails, or railings are missing, broken, rotting, or cracked. Hazard of tripping or falling because of disrepair.	
Roof, Gutters, Downspouts, Chimneys – Material that forms the outer protection against the weather; troughs connected to spouts that route water away from the structure.	Does not need immediate maintenance.	Small leaves on the roof or gutters that may need to be cleaned out.	Need minor repairs to correct a missing or sagging shingle, gutter, or downspout; cracked or missing brick or mortar in chimney; or moss growing on the roof.	More than one missing or sagging shingle, gutter, or downspout; cracked or missing brick or mortar in chimney; cracked or rotting fascia affecting less than 1/4 of the roof and chimney elements.	Missing, buckling, or sagging shingles; holes in the roof or chimney; missing or loose gutters or downspouts; chimney settling or leaning; cracked or rotting fascia affecting between a 1/4 and 1/2 of the roof and chimney elements.	Missing, buckling, or sagging shingles; holes in the roof or chimney; missing or loose gutters or downspouts; chimney settling or leaning; cracked or rotting fascia affecting the majority of roof and chimney elements.	
Exterior Surfaces – protective surfaces including paint, siding, or other material and the structural elements that add strength, bear weight, or insulate the structure.	Does not need immediate maintenance.	Isolated areas where some touch up painting is needed.	Paint and/or siding need some repair work, but there is no evidence of structural decay.	Paint and/or siding need repair work and there is evidence of some structural decay, such as dry rot, affecting up to 1/4 of the surface.	Major repair work is needed to correct paint, siding, or other parts of the protective surface. There are areas of structural decay affecting up to 1/2 of the surface.	A majority of the protective surface is missing, loose, rotting, or broken allowing weather to reach the structural elements of the structure.	

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EVALUATED ELEMENTS	6 Well Maintained	5 Moderately Well Maintained	4 Needs Only Minor Repair	3 Needs Moderate Repair (Up to 1/4 of element needs repair.)	2 Needs Major Repair (Up to 1/2 of element needs repair)	1 Not Salvageable (Majority of element needs repair.)	Score
Windows & Doors – All doors and door frames; and windows including panes of glass set in a frame.	Does not need immediate maintenance.	All doors, frames, and glass present; may have an isolated instance needing a touch up, such as replacing a latch or other hardware.	Need minor repairs to correct a broken or cracked frame, rehang a door, or other small hole related to a door or window.	There are missing or broken panes, broken or rotting window or door frames, or other holes related to a door or window failure affecting up to 1/4 of all of the windows and doors.	There are missing or broken panes, broken or rotting window or door frames, or other holes related to a door or window failure affecting between a 1/4 to 1/2 of all the windows and doors.	A majority of the windows and doors are failing. There are missing or broken panes, broken or rotting window or door frames, or other holes related to a door or window.	
Driveways - private road giving access from a public way to a building on abutting grounds	Does not need immediate maintenance.	May have "hairline" cracks; driveway is level and there is no evidence of buckling.	No more than one obvious crack.	Uneven driveway with some cracking.	Uneven driveway is buckling and there is loose or missing cement.	Majority of the driveway is buckling and there is loose or missing cement.	
Sidewalks -paved walk for pedestrians at the side of a street	Does not need immediate maintenance.	May have "hairline" cracks; sidewalk is level and there is no evidence of buckling.	No more than one obvious crack affecting only one slab.	Uneven sidewalk with some cracking in up to 1/4 of the slabs.	Uneven sidewalk is buckling and there is loose or missing cement affecting between a 1/4 to 1/2 of the slabs.	Majority of the sidewalk is buckling and there is loose or missing cement.	
Landscaping – The planning, design, management, and preservation of vegetation on the land.	Yard well maintained (grass mowed, shrubs trimmed, few weeds, etc.) with landscaping.	Mowed yard; no landscaping.	Unmowed; signs of irregular tending. Small patches of exposed dirt in the lawn.	Unmowed; weeds taller than 18"; Patches of exposed dirt in up to a 1/4 of the lawn; potholes.	Half or less of the site is overgrown with shrubs or thick brush; weedy; between a 1/4 to 1/2 of the yard has exposed dirt.; numerous potholes	Entire site is overgrown and unkempt; nearly all plants are dead; trenches; deep potholes. (Area designed to be a maintained yard.)	