

# Shared Streets and Alleyways – White Paper



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**Cc:** Project Management Team

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**Re:** Task 7.1.O White Paper: “Shared Streets and Alleyways” - DRAFT

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## Direction to the Planning Commission and Transportation Commission

Five sets of white papers are being produced to present information on tools, opportunities, and potential strategies that could help Ashland become a nationwide leader as a green transportation community. Each white paper will present general information regarding a topic and then provide ideas on where and how that tool, strategy, and/or policy could be used within Ashland.

You will have the opportunity to review the content of each white paper and share your thoughts, concerns, questions, and ideas in a joint Planning Commission/Transportation Commission meeting. Based on discussions at the meeting, the material in the white paper will be: 1) Revised and incorporated into the alternatives analysis for the draft TSP; or 2) Eliminated from consideration and excluded from the alternatives analysis. The overall intent of the white paper series is to explore opportunities and discuss the many possibilities for Ashland.

## Shared Streets

### Introduction

Shared Streets aim to provide a better balance of the needs of all road users to improve safety, comfort, and livability. They are similar to European concepts such as the Dutch based ‘Woonerf’ and the United Kingdom’s ‘Home Zone’, with some distinct differences.

This balance is accomplished through integration rather than segregation of users. By eschewing many of the traditional roadway treatments such as curbs, signs, and pavement markings, the distinction between modes is blurred. This introduces a level of “uncertainty” amongst street users that heightens their sense of awareness and requires caution and interaction with one another. These factors help to create an environment that is more comfortable, particularly for vulnerable road users who benefit from slower motor vehicle travel speeds and more attentive motorists.

## Description and Purpose

Shared Streets aim to transform the street into a place that is not just for traffic movement, but a common space that facilitates a wide range of activities (see Figure 1) including local access, pedestrian and bicycle movement, public interaction, commercial and restaurant activity (in commercial areas) or areas for children to play (in residential areas).

There are still few true Shared Street examples in the United States, although examples do exist in Cambridge (Winthrop Street) and San Francisco (Linden Street).<sup>1</sup> In terms of overseas examples, the UK Home Zone treatment translates best to the US. The Dutch Woonerf, while physically similar, is less transferable given its more radical approach toward liability and right of way rules. In a Woonerf, the standard road hierarchy is reversed. Motorists are limited to traveling at a speed no greater than walking pace and are legally required to yield the right of way to bicyclists and pedestrians. Should a crash occur between motorists and other users within a Woonerf, the motorist is automatically assumed to be at fault. In Home Zones and Shared Streets, these legal parameters do not exist and the roles and responsibilities are more evenly dispersed.

***“Balance is accomplished through integration rather than segregation of users.”***



Figure 1: “The Dings” Home Zone, Bristol, UK.

Photo Source: Sustrans.

<sup>1</sup> Philip Langdon, ‘Shared Space’ Streets Cross the Atlantic, New Urban Network (October 2008)

Shared Streets are often confused as streets where pedestrians are given priority, but this is not the case. Within a Shared Street all users are treated equally and no single mode is given preferential treatment. However, on these streets motorists are encouraged to travel at much slower speeds - approximately 10 to 15 mph. This is achieved through use of non-standard traffic calming design treatments such as strategic street furniture placement to narrow the roadway, changes in the road geometry that force motorists to make turns, and shortened sight lines that prevent motorists from seeing too far ahead (see Figure 2). Specific design features are described in detail below.



Figure 2: A Woonerf in Risjswijk, Netherlands.

## What a Shared Street is Not

The most frequent misconception about Shared Streets is that motor vehicles will be banned and on-street parking eliminated. Shared Street treatments do neither. Their purpose is to integrate numerous activities and travel modes through proper design that maintains local access for vehicles and makes strategic use of on-street parking to make it feel natural and unobtrusive and to use it to assist in achieving the traffic speed reductions intended by the street design.

A Shared Street is not intended to be an explicit traffic calming technique. It is not recommended that Shared Street treatments be used where a reduction in vehicle travel speed is the central goal. There are more cost effective and standard traffic calming methods that can accomplish this. Shared Streets embrace a larger goal of creating more livable streets designed to encourage socializing with neighbors, outdoor play for children, and creating comfortable spaces for walking and biking.

## Application

Shared Streets can be applied on residential or commercial streets in urban or suburban environments. In residential settings, Shared Streets are generally not appropriate on streets where there is a need to maintain non-resident vehicle access or through travel. As a rule-of-thumb, the Netherlands and UK recommend that streets with greater than 100 vehicles per hour during the afternoon peak should not be considered for Shared Street treatment.

Commercial applications can increase bicycle and pedestrian activity as well as retail activity.<sup>2</sup> In Cambridge, MA a recent redesign of Winthrop Street into a Shared Street invigorated the local commercial area (the

<sup>2</sup> Sustrans, Shoppers and How They Travel, Livable Neighborhoods Information Sheet LN02 (2006)

concept was so successful that restaurant owners subsequently lobbied the City to close the street to motor vehicle traffic during certain hours – 11 am to 2 am - to enlarge restaurant seating area).<sup>3</sup>

## Design

With a focus on integration rather than segregation, a holistic and community oriented approach is necessary in developing Shared Streets. It is important to achieve community buy-in from the start and neighbors and business owners can be asked to contribute ideas about their vision for a successful street and be involved in subsequent phases of the project.

Once a vision has been established, the design requires careful consideration to ensure that all roadway users are safely integrated. The Home Zone Design Guidelines, published by the Institute of Highway and Incorporated Engineers (IHIE) in the UK provides best practices that can be used to guide the design process. These guidelines identify five distinct elements that play an important role in relaying the intended message of a Shared Street. These are addressed in more detail below:

***“Shared Streets are generally not appropriate on streets where there is a need to maintain non-resident vehicle access or through travel.”***

- **Entrance:** sends a clear message to motorists that they are entering a shared space.
- **Street:** change in geometry, street treatments, and use of space.
- **Streetscape:** patterns and types of materials.
- **Social Space:** area for public seating and play.
- **Interface:** area between adjacent land uses and their role in providing “eyes on the street”.

### Entrance

To send a clear signal that users are entering a Shared Street where different behavior is expected, the entrance should significantly contrast with its immediate surroundings. This can be accomplished using bright signage, narrowing the roadway at the street entrance, using different paving materials, or a combination of these elements. Street art and other unique features may also differentiate the space and enhance the gateway.

### Street

The travel way on a Shared Street is designed to promote slow motor vehicle speeds – ideally near walking pace and no greater than 20 mph. The combination of alternate pavement materials and signage generally need to be reinforced with:

- Shortened sight lines: accomplished through careful placement of street furniture, parking, and/or landscaping.
- Changes to the road geometry: features such as curves or strategically placed objects that require motor vehicles to maneuver slowly.

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<sup>3</sup> Philip Langdon, *US Shared Space: Starting Small*, New Urban Network (December 2010)

- Narrowing of the travel-way: the motor vehicle travel-way may be narrowed to create a situation where motor vehicles traveling in opposite directions are unable to pass each other at the same time. Vehicles are forced to yield right-of-way to one another. Purposeful placement of planter boxes, on-street parking, and street furniture are often used to narrow the roadway in this way (see Figure 3). The current Oregon *Neighborhood Street Design Guidelines* recommends that two-way streets narrower than 20 feet be limited to 300 feet in length and be equipped with residential fire sprinklers.<sup>4</sup>



Figure 3: A British Home Zone uses decorative planters to narrow the roadway

## Streetscape

The streetscape should not resemble that of a typical street and should make abundant use of different paving materials, street furniture, and landscaping. The presence of curbs indicates a motor vehicle through route and special care must be taken to ensure that nothing in the design resembles an area where motor vehicles are given higher priority.

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<sup>4</sup> Transportation and Growth Management, *Neighborhood Street Design Guidelines*, Oregon (November 2000)

## Social Space

Social spaces are created outside of the travel-way and often dedicated through the placement of tables, benches, etc. Informal use of the travel-way as social space (for passers-by to converse or for children to play) is also encouraged without the dedication of specific infrastructure.

## Interface

The Interface of a Shared Street describes the area between the street and the adjacent land uses (typically homes or commercial establishments). In terms of visual surveillance or “eyes on the street”, it is important that street activities are not hidden or obscured from view. Significant window coverage that looks out on to the street helps residents, patrons, and/or business owners feel a sense of ownership, and develops a relationship with the people and activities that occur along it. This informal visual surveillance helps to mitigate potentially negative uses of the shared space such as loitering, graffiti, or criminal activity.

## Parking

On-street parking should not be entirely removed from a Shared Street, but its affects should be minimized. On-street parking should not impede other activities from taking place and should never be continuous along the street. Instead, parking should be placed in blocks of 4 to 6 spaces and arranged intermittently. To discourage on-street parking from occurring in non-designated areas, on-street parking spaces must be clearly defined (see Figure 4). Pavement markings and street furniture can also be used to discourage illegal on-street parking.



Figure 4: Pavement materials clearly delineate parking spaces in a British Home Zone.

## Maintenance

The ease of maintenance on a Shared Street depends greatly on the level of treatment and the types of materials that are used. Best practice dictates that the issue of maintenance be given careful consideration during the planning process. Tasks such as street cleaning, leaf removal, and equipment maintenance may be best handled by a City maintenance department. Landscaping, trimming, and general upkeep may be better suited for local residents or a local volunteer neighborhood group.

## Constraints

### Legal

One of the greatest challenges facing the adoption of Shared Streets in the US is litigious. Many jurisdictions will not consider adopting a Shared Street due to risk of a lawsuit in the event of a collision between a motorist and pedestrian or bicyclist. There is less definition of right-of-way and many of the design features go against traditional traffic engineering guidance (e.g., reducing sight lines). Although numerous studies have

proven the benefits of Shared Street concepts, these concerns should be adequately researched and answered prior to implementing.

## Americans with Disabilities Act

A second issue facing Shared Streets is designing them so that they meet current Americans with Disability Act (ADA) standards. The lack of curbs and standard roadway treatments presents a particular challenge for the blind and may cause problems related to parking for the disabled. There are steps that can be taken to design around both these issues. For the blind it may be necessary to develop a pedestrian through route that is clear of obstacles and free of motor vehicles. This can be accomplished through careful placement of street furniture or planters and the use of textured pavers demarcating the preferred path. Disabled parking spaces should be marked and positioned away from obstacles so they do not impede the use of an automatic lift or wheel chair.

## Benefits

Some of the benefits commonly attributed to Shared Streets include:

- Improved bicycle/pedestrian safety.
- Reduced motor vehicle travel speeds and volumes.
- Increased bicycle/pedestrian activity.
- Improved attractiveness of street.
- Reduced crime.
- Increased social activity amongst neighbors and children.

Many of these claimed benefits have fairly obvious connections with Shared Street treatments. Lower vehicle travel speeds and volumes are known to help reduce traffic injuries, and 20 mph is widely considered as a dividing line between pedestrian injury and fatality.<sup>5</sup> Traffic volumes often decrease on Shared Streets simply because drivers find them uncomfortable or inconvenient and choose a different route. Because fewer motor vehicles travel the street and travel at slower speeds, pedestrians and bicyclists experience increased comfort and these activities generally increase.

Recent research conducted by Biddulph (2010) that evaluated 14 Home Zones in the UK has helped to quantify some of these benefits. The study compared before and after observations and residents' thoughts and found that:

- Motor vehicle travel speeds reduced in all 14 Home Zones by as much as 5 mph (less than the 10 mph reduction target) – resulting in travel speeds of generally less than 15 mph. Speed reductions were attributed primarily to the development of social spaces and changes to the streetscape rather than traditional traffic calming elements of the designs.

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<sup>5</sup> US Department of Transportation, National Highway Traffic Safety Administration. *Literature Review on Vehicle Travel Speeds and Pedestrian Injuries*, DOT HS809 021 October 1999.

- The significance of crash rate comparisons was difficult to assess given the low rates of crashes prior to treatment. On average there was found to be 3.4 fewer crashes in the Home Zones following implementation. As important, the majority of users felt that the street was safe or safer than before implementation with many believing that it was now safe for children to play in the street.
- A significant number of residents felt that the treatment had made the street more attractive. The increased attractiveness and safety of the street resulted in widespread support of the street changes in most instances.

## Examples in Ashland

As described above, shared street opportunities exist on streets that do not serve a through traffic function – this inherently reduces traffic volumes and speeds on the street. Possible shared street opportunities in the City of Ashland are described below. These are suggestions to be further considered by staff and committee members. There may be other locations that are also appropriate for these treatments:

- Un-named paved right-of-way parallel to and south of Highway 99 between Gresham Street and Morton Street: potential for a comfortable active transportation connection parallel to Highway 99.
- York Street, Kent Street, Coventry Place: examples of residential “home zones” that serve no through traffic function. These could be combined into an area-wide treatment.
- Glenwood Drive: provides connections to Glenwood Park and does not serve a through traffic function.
- Winburn Way (Nutley Street – Granite Street): winds through Lithia Park and serves numerous uses and transportation modes. There are alternatives to Winburn Way for through traffic (e.g. Granite Street).
- A Street: commercial district opportunity with parallel traffic routes. Traffic and parking would not be excluded from the street, but a greater emphasis would be placed on pedestrian spaces. Parking opportunities exist on adjacent and parallel streets. This concept would be enhanced by development of the Railway Properties and possible future pedestrian crossings of the rail line and 2<sup>nd</sup> Street or 4<sup>th</sup> Street.

## Summary

There are quantified benefits to pursuing shared street environments. These include improved safety of vulnerable road users, a more attractive urban form, social benefits of greater street interaction, and increased pedestrian and bicycling activity.

There are numerous design features that can be used to redesign an existing street into a Shared Street – although applications should be chosen carefully, especially the street’s role in carrying through traffic, and local resident or land owner buy-in and involvement is critical.

A number of barriers also exist in the form of legal concerns around some of the design philosophies and the movement away from traditional right-of-way rules. ADA issues also need to be appropriately addressed in the design.



## Alleys

The City of Ashland has expressed interest in using existing alleyways as bicycle and pedestrian connectors. Many US cities such as Seattle, Chicago, Detroit, Fort Collins, and Pasadena are recognizing the potential of alleys as transportation connectors, as inviting public spaces capable of attracting activity that is good for neighborhood safety and the local economy, and for “green” redesigns that include permeable pavements and landscaping to aid storm water management. Case studies are presented below from Fort Collins, CO, Chicago, IL, Detroit, MI, and Melbourne, Australia.

In Ashland, there are a number of alleys that have established rights-of-way and offer a parallel, more suitable alternative to busy arterial roadways for pedestrian spaces and bicycle traffic. Alleyways are characteristically narrow, which discourages or at least slows motor vehicle traffic. Despite this, alleys have a number of disadvantages that need to be overcome to provide a safe and comfortable experience including:

- Security: the biggest concern for using alleys is security. Most alleys provide little surveillance with few “eyes on the street” given their location at the rear of buildings and obscurity from well trafficked streets. Lighting is often poor and the penetration of natural light is less effective. These environments can attract criminal activity.
- Economic Vitality: lack of visibility is also a concern for potential economic activity. This could be overcome by encouraging active storefronts on the alleyway.
- “Back-of-Building”: services such as refuse collection, utilities, etc. are often located in alleys and create obstacles that need to be avoided and unsightly activity that would need to be screened. It is also important that litter is controlled.
- Vehicle Access: in commercial areas alleys are commonly used for loading/unloading as well as, in places, for parking at the rear of the building. Pavement quality is often poor which can create pooling water and other unattractive features.

### Alley Redesign Examples

Alleyway redesigns are enjoying a recent surge in the United States as cities begin to realize the transportation, urban form, economic, and environmental benefits of these projects. There are numerous examples of unique alleyway projects that provide a variety of community benefits.

## Fort Collins, Colorado

In June 2010, the City of Fort Collins implemented the first phase of a multi-alley retrofit process with the redesign of the Old Firehouse Alley (see Figure 5). The goal, as stated by the Downtown Development Authority is to “enhance the alleys aesthetically and to stimulate increased economic vitality and use of these spaces. The alleys will feature pavers, pedestrian-scale and Tivoli (string) lights, planters in pots, high-quality street furniture and improved drainage where possible. Each alley will have public art work incorporated into the design. We are also working with property owners to form trash co-operatives and create permanent consolidated trash enclosures.”<sup>6</sup>



Figure 5: Old Firehouse Alley Redesign Concept – Fort Collins, CO.

## Chicago, Illinois

The City of Chicago embraced the prospect of maximizing the utility of their existing alleyways by developing a comprehensive guide for the design of “green” alleys: [The Chicago Green Alley Handbook](#) (an extract of which is shown on Figure 6). The green alley concept was born out of a need to reduce flooding and runoff in alleyways and was an alternative to installing expensive new connections to the sewer by treating runoff naturally. The retrofitted alleys make use of permeable pavers that are light in color, thereby reducing storm water runoff and reflecting the sun’s heat energy. They are also retrofitted with recycled materials and added lighting is designed to improve safety, maximize energy efficiency, and minimize light pollution.

## Detroit, Michigan

The City of Detroit has been experimenting with Chicago style “green” alley retrofits. While not expressly designed as bicycle connections, these provide a greatly improved environment for pedestrians and bicyclists. One specific project, located between Prentis and Canfield Streets, was a joint effort between city staff,

Green Alley Pilot Approach #2:  
Full Alley Infiltration Using  
Permeable Pavement

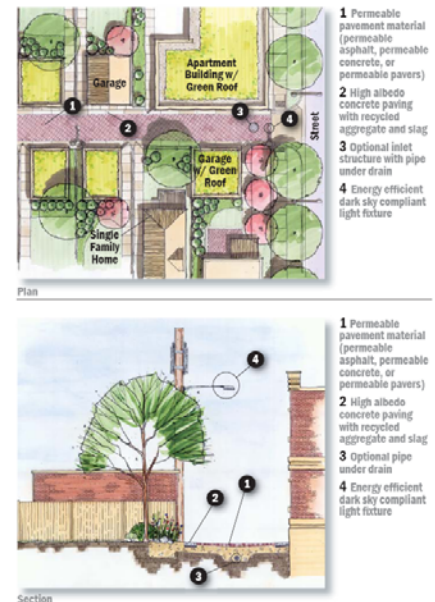


Figure 6: Extract from *The Chicago Green Alley Handbook*.

<sup>6</sup> Downtown Development Authority, *Downtown Alley Enhancement Project*

local neighbors, the Green Garage, and Motor City Brewing Works. The retrofit transformed the once abandoned and overgrown alley into a green alleyway that includes gardens and ample space to stop and socialize with neighbors or frequent nearby businesses. Before and after photos of the alley retrofit are included in Figure 7.



Figure 7: Alley Retrofit between Prentis and Canfield Streets, Detroit, Michigan

(left: before retrofit; right: after retrofit).

## Melbourne, Australia

In recent years the City of Melbourne instituted an ambitious program of pedestrian “laneway” retrofits that enhanced the historic pedestrian arcades in the Central Business District. This program introduced new pedestrian laneways, increased the width of many existing walkways, closed down streets to motor vehicle traffic, and added landscaping, public art, and façade improvements. The City’s goal was to maximize pedestrian space and increase pedestrian activity.

The program has also had economic successes including the introduction of a popular night market on Swanston Street, a thriving commercial retrofit in Centre Place (see Figure 8), and the closure of DeGraves Street to motor vehicle traffic creating a highly frequented community of shops and restaurants that opened in response to the change (see Figure 8). The additional customer base and pedestrian traffic also acts as passive surveillance and a form of self-policing.



Figure 8: DeGraves Street (left), Centre Place (right), Melbourne, Australia.

## Application

With the exception of Chicago's Green Alley Handbook, very little in the way of formal design guidelines are available for alleyway retrofits. However, a closer look at each of the case studies suggests that there are certain elements that should be present in an alleyway project. A partial list includes:

- Pedestrian amenities such as trash receptacles, prominent street lighting, and public seating that increase comfort and safety.
- Street art consisting of murals, sculpture, or similar visual element that helps to uniquely define the space and provide visual interest
- Closure, partial closure, or calming of the through-way to motor vehicle traffic. This makes the space comfortable for pedestrians and bicyclists and provides opportunities to use the space for activities such as dining and street performance.
- Actively encourage the use of alleyway for commercial uses such as boutiques, restaurants, and bars. This serves the dual purpose of improving the local economy as well as creating an interesting environment where people will choose to visit and spend time.
- Use environmentally conscious and sustainable design techniques, such as permeable pavers, natural landscaping, and recycled building materials that can effectively manage storm-water runoff. This has the added benefit of reducing stress on sewer systems/water treatment facilities, recharging groundwater, and filtering pollutants.
- Entrance features that clearly differentiate it from the rest of the rest of the transportation network.

An analysis of the quality and character of alleyways in Ashland is necessary to determine if they are suitable for a redesign. Before any analysis can take place, it is recommended that a set of criteria be established to judge the suitability of any existing alleyways. Criteria might include:

- Proximity to existing commercial establishments.
- Storefronts that face the alley.
- Ability to close a gap in the pedestrian or bikeway network.
- Light and low-speed traffic conditions.
- Existing street lighting and "eyes on the street".
- Good street crossings at entrance/exit.
- Cleanliness.
- Good pavement quality and drainage.
- Existing public art.
- Few existing obstacles such as utility poles or trash receptacles blocking the through path.

## Examples in Ashland

The Calle Guanajuato is an existing example of a commercial alley retrofit in Ashland. This concept and others identified in this white paper may also be applicable to the candidate sites listed below. These are suggestions that should be considered further by staff and the steering committee. There may also be other locations that are also appropriate for these treatments:

- Will Dodge Way (Pioneer Street – 2<sup>nd</sup> Avenue): commercial opportunity.
- Enders Alley (1<sup>st</sup> Street - 2<sup>nd</sup> Street): commercial and active transportation opportunity. There may be potential to extend this from Pioneer Street to Hargadine Street.
- 9<sup>th</sup> Street Alley (B Street – 8<sup>th</sup> Street): residential opportunity. Note: this is actually a residential driveway that is not part of the public right-of-way.
- Golden Spike Way: residential opportunity.
- Alley between B Street and C Street: potential active transportation connection from 1<sup>st</sup> Street to 8<sup>th</sup> Street.

## Summary

Ashland's network of existing alleyways may prove to be a valuable asset for creating pedestrian spaces and comfortable connections for pedestrians and bicyclists. These facilities are not necessarily the fastest or most direct transportation connections, but the benefits of retrofitting alleys goes beyond transportation to include economic, security, and environmental benefits.

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