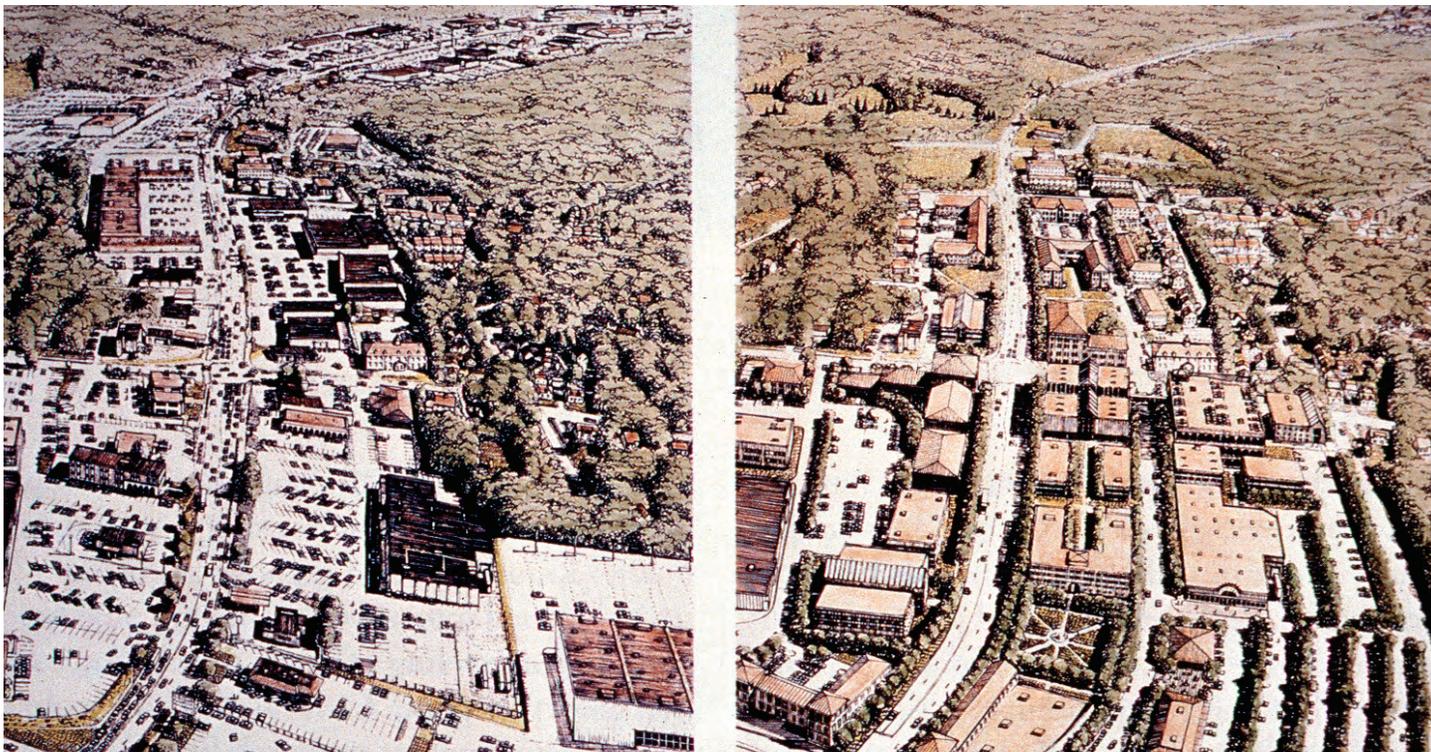


Appendix

Additional Resources

Douglas, Michigan

Suburban versus Urban Design



Photos above and below depict auto-centric, unwalkable environments (as found near freeway ramps). Streets above are dominated by parking lots and lack connectivity into surrounding neighborhoods. The retail center below ignores the needs of pedestrians and instead caters to high speed vehicle movement. In these examples, land use and development weren't coordinated to encourage multi-modal access or to make the community truly accessible to everyone. Our most vulnerable citizens, seniors, children and poor people, are most impacted through strip designs.

Above photos depict traditional town forms with high levels of walkability. Too many towns have slipped from time to time into an all too stark, auto-dependent form. Community plans must set a course to become more walkable, social, inspirational and physically attractive. The courage to take on and deliver such planning principles through outstanding leadership is essential.

What went wrong and how will we correct it? Roads were built for higher speed to allow easier access to escape the centers of towns. These rebuilt or new streets were commonly stripped of parking and trees. Zoning codes were altered to favor or force parking lots to the front of buildings. Auto-centric designs even crept into downtowns. Taxation rules and other measures rewarded property owners for not putting land into its most sustainable and best use. The result was often sprawl and vacant town centers.

Now these rules are changing. Towns of the future that thrive will reinstall more on-street parking, plant trees to

create vertical walls and edges to streets and in other ways significantly “green up,” and provide enclosure and a human scale to village streets.

How will this take place? Using town making and placemaking principles, empty parking lots will either be replaced with mixed use buildings, or otherwise made into attractive gathering places. Parking lots will no longer be a visual blight. And everywhere in a central town, more parking will be put back on the street, helping calm traffic speeds and creating an important buffer and edge. This edge will separate moving traffic from pedestrian and retail life.

Technical Information on Town Making

Walking Scale, Mix and Walkability Score

Walking requires plenty of street or trail connections. High connectivity makes it convenient and easy to get from one place to the other. This pattern creates town or other centers with the highest possible mix of uses (civic, retail, service, work and residential) all in one place. To create high connectivity block perimeters should fall within 1200-1600 feet. Note that this does not force a gridiron pattern. When terrain, streams and other features are accounted for, any of a number of patterns will allow walking to be supported.



Aerial maps of town centers reveal compact, well laid out systems of streets, good block form and easy access to most destinations. In general, 80 percent of people find it convenient to walk for distances under a quarter-mile, or five minutes. Under favorable urban conditions, people will walk a half-mile, or ten minutes, and in even better urban conditions, one mile, or twenty minutes. Many Lower Michigan residents live within an easy walk of the town center and major attractions.

Walkability can be improved with some modest changes. Principal roads can either become an asset or further divide the community. Bike lanes, tree lawns, medians, a few "road diets," mini-circles and a few gateway roundabouts will be of great benefit to area towns' livability, health, longevity, vitality and economic life. www.walkscore.com helps us assess the walkability index for any household. It can also be generalized for a town.

Walkability varies widely throughout Lower Michigan . In some areas the index is 78 out of 100 (Very Walkable), while in others it is only 20-30, and in many areas it is 0 (see www.walkscore.com). This score reflects mostly on the bones of connectivity, block form, distribution of important stores and services.

The score does not currently measure gaps in sidewalks, broken links and other elements that reduce walking. Localized for each of these effects, the scores of various portions of The Lower Michigan are lower or much lower. Type in a specific street address for an actual score. Each of these scores can be improved significantly. These scores do not take into consideration such factors as street width such as those imposed by the five laning of SR 70 or SR 17, with miles of ugly strip form shopping (urban form promotes walking) and high levels of discomfort due to speeding vehicles.

Overview and Guiding Principles

Walkability audits are only one tool to bring community-making into focus. Recommendations focus mostly on the physical form of a neighborhood, city or region. This includes sidewalks, intersections, trails, streets, parks, plazas and buildings. It also addresses how these parts should be arranged, and how streets, buildings, parks and even open space should “behave.” If buildings are not set in the right locations or streets fail to create a proper enclosure, for example, traffic speeds will be too high and people will not feel comfortable walking.

As time honored town making principles have been violated, this will be pointed out. As physical improvements are needed in general and with specific sites, these will be explained. Needed changes are called “opportunities” and they can be made immediately or incrementally, as added funds are located and prioritized.

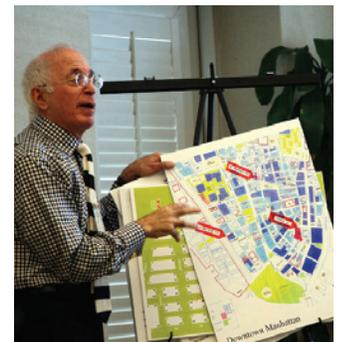
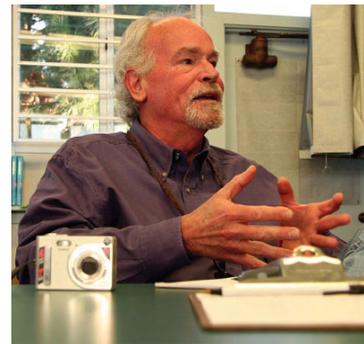
Changes can be small-starting with a few agreeable, achievable model projects and changes. Retiming traffic signals, painting narrower lanes, moving crosswalks back to where they should have been placed, planting rows of street trees can be done under most existing town budgets. Eliminating ugly off-street parking, or significantly dressing up a town blemish until an investor can be found, can also bring about a better place.

This document does not address long term changes that are needed; such as fundamental restructuring of codes, policies and practices. This requires follow-up trips by experts in urban design; a special look at specific corridors by a balanced team of specialists who can overcome conventional thought, the prescribing and writing of specific plans, such as Traffic Calming, Corridor Mobility and Transit Plans; Accessibility Plans, a Downtown Plan, a Health Impact Assessment, and other specific planning tools that set the stage for future project funding.

Rather, this focus here is on how combining land-use planning and transportation as a single community-building tool helps communities thrive and, in fact, will be the mark of successful, sustainable communities in the future. Health statistics reveal that a combination of a sedentary lifestyle, lack of active transportation and poor access to healthy foods has led to a decline in overall health, and is adding to health care costs. Communities can embark on healthier, better-connected, more prosperous futures through walkability.

Fifteen Walkable Community Principles

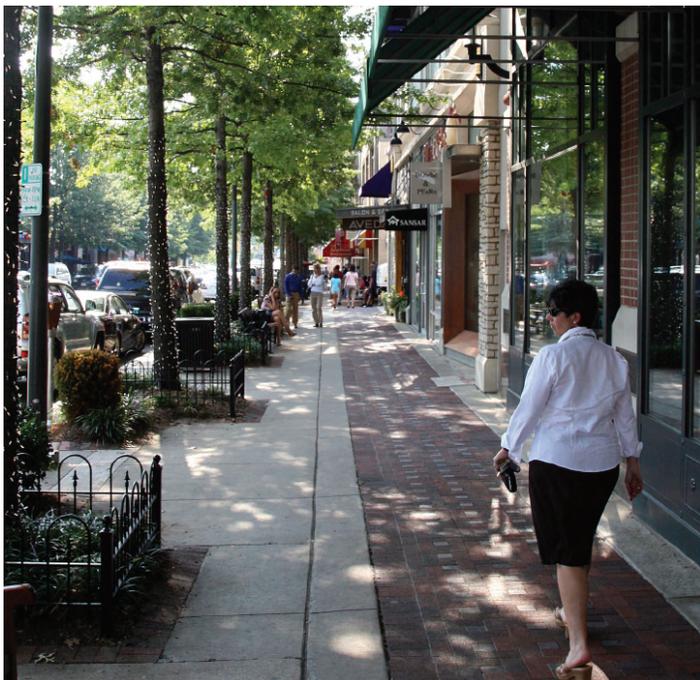
1. Low speed, attractive streets
2. Fine grained, well connected, streets and walkways
3. Streets and buildings align to form strong, compelling views
4. Streets work for everyone (all ages, all abilities, all uses)
5. Mix of buildings and uses, allowing easy walking access
6. Welcoming, socially engaging mixing places
7. Compact housing and many housing types and a range of cost
8. Emphasis on downtown and other key centers
9. Well located parks and open space (easy access to all)
10. Well located schools, within walking distance of homes
11. Easy access to efficient and welcoming transit
12. Land use and transportation partnerships
13. Homes and buildings face principle streets, parks, schools
14. Codes, taxes, other incentives favor compact land form
15. Decisions favor long term, sustainable growth and value



Codes to Create Traditional, Walkable Communities

Most land-use codes were written at a time when cities had an abundance of available land, water, clean air and other resources. Governments assumed continued availability of these resources, as well as financing, which led communities to construct poorly connected and outwardly expanding light density urban development, supporting street networks and other inefficient infrastructure. As a result, land uses were separated – sometimes by miles – and urban areas were allowed to decay.

Today, we have a better understanding of the limitations of our available resources. Roads, bridges, sewers and water lines that are now failing, need to be replaced or refurbished. Costs of building roads, bridges or anything has gone up 2-8 times from what it would have cost had we stayed current with maintenance needs.



Below: A recent investment on “D” Street in Ft Pierce, Florida, helps anchor an important corner, slowing traffic and creating a strong, compelling sense of arrival and place. This building also provides a new police precinct station and a community gathering place.



Existing codes promote poor connectivity, which leads to higher dependence on cars – and even greater strain on infrastructure. Facing high gas and energy costs, residents are ready for change. But it will require more than Band-Aid solutions. Metaphorically speaking, we’re talking surgery and radical changes to get our towns back to good health.

As we make “brick and mortar” changes to the physical infrastructure, we also should update the policy infrastructure, including land-use codes, to foster more livable, walkable communities.



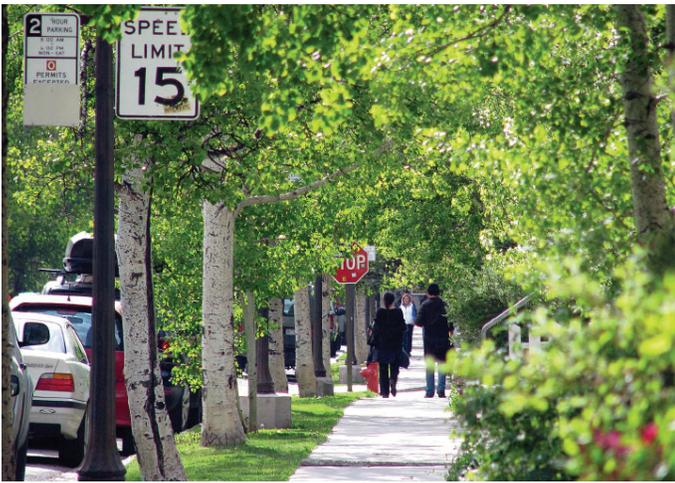
Above: All buildings in time should be transformed to urban placements. The downtown business plan should support a returning town center population, allowing many people already living in the historic area to walk or bicycle to nearby destinations. New buildings, or adapted buildings, can provide important added presence of people in the downtown.

Many sidewalks have fallen into ruin. While investments in streets are behind the times, support systems for walking are at or below 20% of investments needed to support this mode of travel. Communities need to make an ongoing investment in walkability infrastructure. Below, a recently reconstructed sidewalk in Cambridge, Massachusetts, makes use of color to highlight walking areas, create a buffer to moving traffic, and otherwise supports walking.





Roadways of the future must create attractive “addresses,” provide a social environment and sustainable transportation, while continuing to move traffic safely and at reasonable speeds. Stakeholders should look at alternatives that work for everyone. Future roadways must “invite” buildings to form a strong edge, and canopies of trees that complete vertical urban walls.



GREENING THE STREET

Above and right panels: Over time, strip centers and downtowns can be converted to lower speed streets that move traffic through improved intersection designs and higher street connectivity. This calls for master plans for each center. A significant investment in more compact, people friendly intersections, on-street parking, landscape materials and street furniture can pay handsome returns over time, both in retail sales inside area stores, and in overall increases in lodging, food and related tourist trade.



Street Connectivity

When city streets are well connected, walking increases; when poorly connected, walking stumbles. Both the form and the size of blocks determine walkability.

Broken or disconnected street patterns force too much traffic into one place. Intersections become too large, and streets are harder to cross. If blocks become too long speeds and traffic volumes also increase. Block sizes of 1200 to 2000 foot perimeters are best.

Shown to the right is an illustration (x-ray) of Barcelona, Spain, arguably the most walkable city in the world. Note the older part of the city, a mish-mash of walking streets that originated more than 2000 years ago, then the more recent, gridded and diagonal corner clip pattern. Both the old and more modern are well connected and immensely walkable.

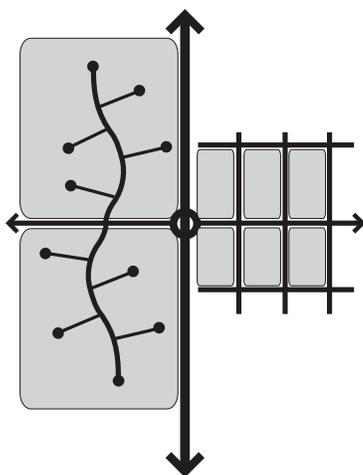
Meanwhile, note the patterns below. When blocks become too long it is impossible to get to any place by foot that does not involve long walks. People become disconnected from friends, parks, schools, everything. This broken pattern forces trips to be made by auto.

Key Principles of Street Connectivity

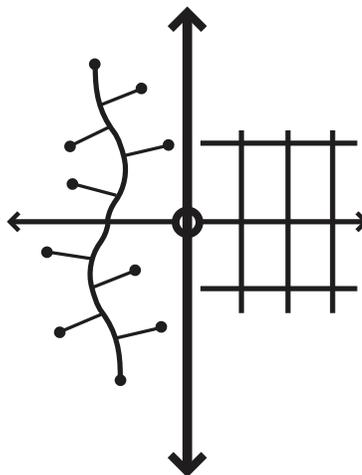
- Keep connections to human scale (1200 to 1600 foot perimeter blocks are ideal).
- Strive for a link to node ratio of 1.7 or better (links are streets, nodes are intersections)
- An occasional set of blocks that are longer are acceptable, but try for a paseo or trail connector to keep walking and bicycling competitive with other modes
- Orient homes and other buildings to watch over key connectors
- Cul-de-sacs can be connected by trails and links in many neighborhoods as a retrofit from an un-walkable place



Block Size



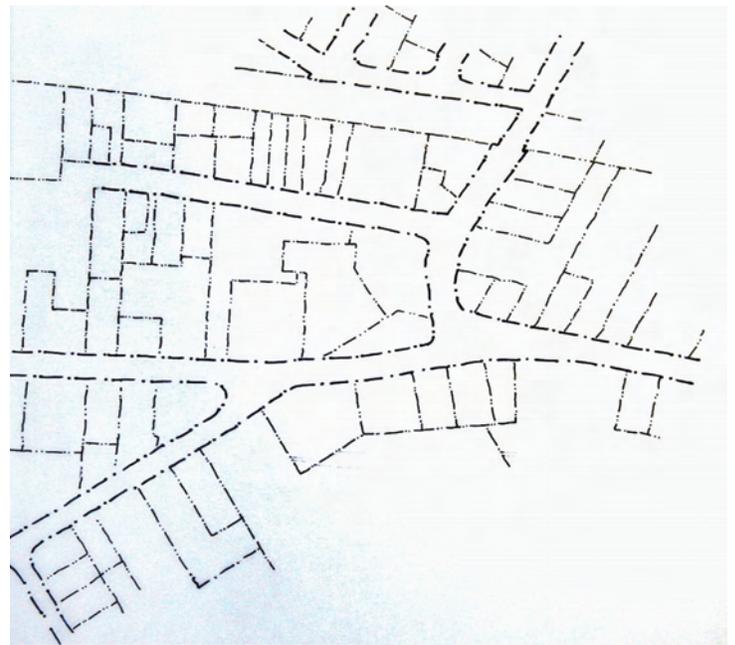
Block Form



Street Connectivity and Village Development

Traffic congestion can be relieved using techniques much smarter than adding more lanes. Note in the three illustrations to the right a progression of steps taken to move more traffic in a minimum number of lanes.

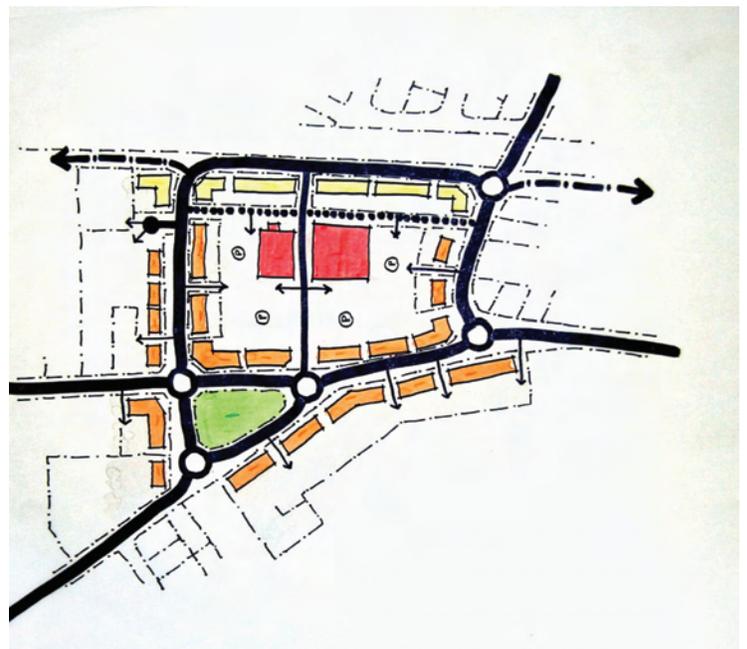
In the first illustration the dog-leg street pattern, referred to as a confluence, forces traffic from four directions to share space along one street. This has caused a traffic backup of one mile in each direction a number of hours daily.



In the second illustration the problem with congestion is resolved by adding in new streets through a strip center development. The confluence is removed, but traffic signals still keep traffic hostage to their inefficiencies.



In the third Illustration all signals are removed and five roundabouts are installed. Each roundabout can handle up to 30% more traffic volume. The former strip now has significant new ability to provide unimpeded traffic flow and access. Most streets now become "A" streets, provided attractive walking, bicycling, driving and shopping experiences. The only "B" street is the thin line in the center ... a driving lane to access parking toward the center of the illustration.



After years of taking a different route, designers and elected leaders have learned that towns designed for people and jobs are packed with people and place, and that towns designed for cars are packed with cars and space. Towns that thrive are designed for large numbers of people and jobs. These towns accommodate or tolerate cars; not the other way around.

The Bones. What will work best in the future is largely what worked best in the past. When people walked, biked and used transit more, when land uses were calibrated to a human scale -- smaller, mixed and closer together -- there was a high degree of social mixing and social equity. Infrastructure was affordable and sustainable. Cities and towns are well positioned to take advantage of their historic grids and excellent street connectivity. Sustainability practices place more trips closer to home, calling for greatly improved aesthetics for streets, reduced speeds, and tools for keeping traffic in motion. Meanwhile, there is a missed opportunity to address. As each downtown or village center strives to draw in a growing clientele, and as infill investments are made in village or new centers, state roads will require new streetscapes, lower speeds, more parking, buildings that will add to the identity of the place.

Traditional Towns over the years with “good bones” (e.g. patterns, block forms, orientation toward water, distribution of schools and parks) heal from job losses and recessions more quickly than those that lack these qualities. By focusing on some immediate fixes to insert missing pieces (town makeover) and then addressing long term commitment to creating place, we will weather these storms of change and create places that can prosper.

Why is walkability important? As recently as 15 years ago, many people didn't understand the importance of building walkability and place. Downtowns and village centers lost vibrancy. Land uses became more and more separated from one another. Most new homes were built with large lots (light density) and to a suburban scale. Buildings no longer watched over streets, and people lost interest in being there. Sidewalks and crossings were omitted, and it became challenging to conduct errands without using a car. Transit became erratic. As a result, car use by the average American driver grew from 5 miles per day in 1945 to 27 miles per day in 2007. Indeed, in the last twenty years, per capita traffic volume grew five times faster than the US population. Other countries have seen dramatic increases as well.



An all too common scene. A sidewalk on the school side, but what about on the other side, where people live? How does a person get across this street? Center turn lanes and travel lanes are too wide, there are no bike lanes, yet this is a principal street. Such mistakes are common when professionals were trained to keep cars in motion, but not trained in building a walkable community.



Such auto growth and dependency is not affordable, sustainable, healthy or smart. Isolation and loneliness of people, as well as reduced levels of volunteerism, result from these impacts in most towns and cities. Herein, lies the potential and promise to evolve sound, solid, sought-after community through designs that work well and well into the future. Such designs place the human being at their center and the design scale is based around the human foot. Ease of movement for all people-young and old-encourages aging in place and allows all members of the community to feel encouraged and expected to participate in the day to day life of the place. This is good for everyone.

Our economy is over a barrel, literally and figuratively. Americans are being hammered at every turn. Falling home values, rising gas prices, and Wall Street bailouts with fallout on Main Street. Hanging over it all is a sense that we have come to the end of the road with our over-dependence on oil.

- Build for America

Public streets form and frame so much of our public realm that by emphasizing speed of cars, we destroy character and our sense of community. Once streets are rebuilt for lower, but steady, speeds, it will be possible to provide new, mixed use buildings that create a sense of place, character and arrival. As these transitions occur land can increase in value from \$5-15/sq ft to \$35-60/ sq ft.



Boulder, Colorado



Basalt, Colorado



Grand Junction, Colorado

Moving From "Placeless" to "Place"



In the photograph above, the functional use of a street is defined. Places where people want to walk are "A" streets (where buildings are designed to watch over the street). Meanwhile a series of "B" streets are needed to provide for utilities, deliveries and other internal functions. For the most part, people will not walk along "B" corridors.



Right and above photos: This suburban style "B" street is transformed into the image below, changing the function of the street into an "A" category. In recent years, teams of planners, engineers, architects and landscape architects have made transitions allowing areas to become alive and active. It often takes more than one discipline to do this. Indeed, those areas that do not transform well are areas where people do not understand multiple functions needed in corridors.

Converting "B" Streets to "A" Streets



Meanwhile, the above "B" street performs quite well for people who live here or make deliveries here. In the next row of images, a street not designed for walking (middle left) can be transformed into an "A" street which watches over parks, schools or corridors where continuous walking trips are important.

