



THE IMPACT OF TRAFFIC PATTERNS ON CORRIDOR RETAIL

Spring 2007

Much has been written on the debate over one-way vs. two-way traffic and the inherent impacts. However, most of the information presented has been from the perspective of the traffic engineer, rather than from the perspective of the retailer. This report is an attempt to provide the perspectives of both.

INTRODUCTION

The information which follows addresses the relationship between urban design and the performance of retail establishments in the commercial corridor environment. Specifically discussed are: the market consequences of street design; the impacts of street direction, speed, and width; and, other factors – some more significant than others.

Primary and secondary research provided the basis for the findings and conclusions presented herein. Representatives of Leland Consulting Group completed interviews with leading industry professionals (retailers, developers, urban designers, and traffic engineers) and conducted a comprehensive review of existing literature.

What this investigation revealed was that successful urban retail environments are quantifiably dependent on urban design features such as: traffic speed and direction, street width, parking orientation, the presence of medians; and, more esoteric features such as “intimacy” and “friction”. All of these factors were found to impact the area’s potential for success, particularly when combined with driver awareness and pedestrian security programs. In a survey of businesses conducted by the Texas Department of Transportation, a majority of business owners and customers ranked “accessibility to their store” below customer service, product quality and product price. At issue, as the information which follows will demonstrate, is the retailer’s goal for access and the engineer’s goals for improved traffic flow and regional connections.



EMPIRICAL RESEARCH

Based on limited research, there appears to be a reasonable amount of data widely available on the sociology of urban design and traffic. What is lacking is information on the economic impacts of urban design on commercial development. Logic would suggest that this is not surprising given the complexity of both the street environment and the market. However, understanding, and where possible quantifying this relationship, is essential in the context of defining and designing environments that meet the needs of those within the street (cars, bikes, transit), as well as beyond the street (pedestrians, retailers). Therefore, representatives of Leland Consulting Group contacted individuals within the retail industry, various downtown service organizations, transportation agencies and other key groups in order to uncover any efforts to quantify the design-market relationship. This work revealed that a few environmental studies do, in fact, address implications for the retail sector. What follows is a summary of conclusions drawn from the discussions and review of literature provided. Note: All are referenced in the biography presented on the last page.

Among the studies discovered, most, if not all, indicated a negative relationship on “heavy streets” (defined as one-way with synchronized lights and comparatively high volumes) between both the awareness of one’s surroundings and willingness to interact within those surroundings. This research also suggested that both drivers and pedestrians are less able to describe the details of streets they travel everyday when those streets are fast, loud, and perceived as dangerous (often characterizations of one-way streets with limited design elements). The implications of this input for a store-front retailer are obvious, yet they elude quantification.

The value of sociological research in the area of the design-market relationship is the perspective it brings to what has traditionally been a numbers game. For example, the traditional planning perspective on parking has been concerned, primarily, with the view from the car (as this quote demonstrates):



“Unfortunately, urban developments of the 60’s ended up reducing the total parking count by converting head-in diagonal parking to parallel parking. This was a serious mistake because it reduced the number of stalls and the likelihood that shoppers would find a place to park.”

This statement, while true enough, fails to consider the positive aspects of this design concept. Specifically, parallel parking provides more opportunities for pedestrians to fit between parked cars and thus cross the street. The result, many retailers argue, is that pedestrians and drivers perceive the two sides of the street as closer together and the overall environment as more intimate and memorable. These, and other issues are presented in greater detail in the discussion which follows.

Industry Norms

As explained above, in an effort to “prop up” the scarcity of empirical research related to the design-market relationship, Leland conducted a series of interviews with industry professionals in an effort to arrive at a consensus on the role of urban design in the performance of corridor and main street retail. In discussions with national street retailers (GAP, Talbots, etc.), developers of street retail properties, development and design firms, and traffic engineering firms, a variety of issues believed to impact the success of retail establishments in the urban corridor were identified. Among the most obvious issues were: speed and “friction,” traffic direction and street width, parking and elements of intimacy.

Speed and Friction

Speed is widely perceived as the single most important transportation factor impacting retail performance. While different types of retail find differing ranges of speed acceptable, the perception that high speeds are detrimental to retail is nearly universal. High speeds reduce awareness of one’s surroundings, intimidate pedestrians, and serve to divide the sides of a street into separate entities. Streets designed for moving traffic, by definition, reduce the “friction” (between cars and cars, cars and people, cars and



bikes, bikes and people, etc.) and the vitality this “friction” brings to urban commercial streets.

Traffic Direction and Street Width

One-way streets, in and of themselves, are not seen as harmful to retail, however people usually associate them with speed. There are many examples of successful one-way downtown retail streets, but none have more than two moving lanes and most typically have on-street parallel parking. In surveys of retailers, the consensus seems to be that two-way streets are preferable to one-way streets largely because of the increased “friction” they provide. Specifically, the on-coming traffic present within a two-way street environment slows things down and adds to the “action” (U-turns, etc.), essentially doubling accessibility. It is important to note, however, that concerns related to traffic direction are generally less associated with attempting new retail on an existing one-way street, and more associated with the conversion of a two-way street to a one-way thoroughfare.

With regard to “friction,” though, there obviously is a limit to the desirable amount. Some have argued that a one-way street, with two lanes of moving traffic and on-street parallel parking is the ideal situation. Under this design scenario, traffic moves more smoothly than in its two-way counterpart, reducing both pollution and frustration from things like “doubling”. The on-street parking provides the “friction,” and the overall environment is safer, because pedestrians can cross a one-way street more easily than a two-way, and the area is cleaner, because of the reduction in noise and emissions. Studies supporting these conclusions report that one-way streets have 10 to 50 percent fewer vehicular accidents than similar two-way streets. An additional advantage is related to traffic synchronization which is usually more easily accomplished in a one-way street configuration.

Arguments for two-way streets include: enhanced businesses perform better; a favorable pedestrian environment; increased storefront exposure; and, fewer service disruptions. Research has proven that businesses on two-way streets have a comparatively elevated tax base, command stronger commercial rents and net higher real estate values, versus



businesses on one-way streets. This same research suggests that the improved pedestrian safety and comfort afforded by a two-way traffic environment encourages shoppers to patronize adjacent businesses by foot, creating economic synergy. Additionally, vehicle travel is slower on two-way streets and more complicated, making drivers cautious and more inclined to reduce speeds. For those businesses highly dependent on passer-by traffic, two-way streets are essential. In the case of one-way streets, one side of every cross street is partially “eclipsed” from view, a conditions absent in the two-way street configuration. Curbside activity such as service vehicle loading / unloading is also less disruptive to traffic flow in a two-way street, as only one lane is blocked. In the case of a revitalizing urban corridor, the most important benefit afforded by the two-way street is the priority given to the pedestrian. Two-way streets tend to promote a sense of pedestrian dominance that contributes to the tax base, creates an environment that encourages urban residential development and contributes to a compact city form.

Parking

The importance of the need for accessible parking in any retail environment is undeniable, however, one’s perception of “accessible” adjusts to the setting. Drivers, by and large, expect the act of parking in an urban environment to take longer. This said, the challenge becomes creating a space worthy of the extra effort. The ideal scenario is the provision of short-term, on-street parallel parking and a long-term off-street garage within a single block of the epicenter of commercial activity. On-street parking serves to draw the two sides of a wide street closer, visually; provides a literal and mental buffer between the sidewalk and the traffic; improves access between parked cars; and, adds friction via the act of parking itself. The garage, of course, makes up for the parking shortage.

Elements of Intimacy

The design elements discussed above are considered primary to the success of urban retail, however true success is often borne out of the interaction between these elements (and many others). While not every retailer requires the same thing from its immediate



environment, benefit is provided from a certain intimacy achieved by clustering a diverse mix of retailers and paying close attention to urban design. The goal of the design effort is to create a single place, drawing the various pieces together. The goal of the retailer is a consistent revenue stream and extended stays. Designers talk of drawing the street closer by widening the sidewalks, landscaping, medians, erecting large lighting and banner poles, and so on. Retailers know that patrons will spend more in an environment where retail synergy is accomplished and that this depends on a consistently designed environment. Two elements of intimacy which draw both favorable and negative comments are medians and street dressing.

Medians

Concern over the installation of raised medians along corridors is mixed among adjacent businesses. While some perceive medians as a threat to vehicular access, others feel that medians create a more attractive environment. Research shows that perceptions related to raised medians among businesses on a corridor are consistently worse than reality -- before, during and after median installation.

In a survey completed by the Texas Department of Transportation (TxDOT) over a four-year period, research confirmed that the economic losses of most businesses adjacent to a commercial corridor where raised medians are introduced are not a result of the installation. TxDOT further discovered that only two types of businesses experienced losses in gross revenue -- auto repair shops and gas stations. All businesses present in the corridor before, during and after the raised median installation, experienced increased property values. In fact, corridors with access control improvements monitored during the survey indicated an average increase of 18 percent in property values after construction.

Pedestrians that use medians are believed to feel an improved sense of security when raised medians are present. Street design reviewers are often concerned with median design width and pedestrian safety in an extended median stay. When compared to two-way left-turn lanes, raised medians reduce pedestrian-involved crashes by 45 percent and fatalities by 75 percent.



While the perceptions of business owners on the installation of raised medians tends to be negative, especially among businesses that are dependent upon passer-by traffic, research suggests these concerns are unwarranted. In fact, in most cases, property values, gross revenue, and customers per day increased after raised medians were installed.

Street Dressing

Street dressing and the action it generates in the urban street are considered two of its greatest assets. Opportunities for “people watching” adds to the mix: one person’s failed attempt at parallel parking becomes another’s entertainment. Sidewalk café tables positioned at the curb, as well as the building edge, keep pedestrians from being pushed out beyond the reach of store-front displays and provide a steady stream of entertainment and friction for those seated. The strategies for dressing the street are varied, but the goal is always to create an intimate, active space where people can interact with their environment. The great advantage that urban retail has had over suburban retail, particularly enclosed suburban retail, is the experience afforded the consumer. Shopping in an urban commercial center has as much to do with the buildings, the street, the people, and the weather, as it does the act of shopping itself.

CONCLUSION

As explained above, the retailer’s primary goals are access, visibility (signage) and parking in an effort to maintain a viable business interest. Conversely, and often in conflict, the traffic engineer’s goals are speed, flow and regional connectivity. The urban designer’s goals lie somewhere between the two, as they endeavor to create a compatible place for vehicles, pedestrians, transit and business. In the context of road design and re-design, if any one of these groups’ interests is not represented, their goals stand to be compromised, resulting in a less successful street environment. As communities across America begin to once again see roads, streets and corridors as viable centers for retail, they will be forced to make trade-offs between the opposing needs of these three groups.



SELECTED BIBLIOGRAPHY

Appleyard, Donald and Lintell, Mark. The Environmental Quality of City Streets Craik, K.H. (1968, January). The Comprehension of the Everyday Physical Environment. Journal of the American Institute of Planners, 34:29-37.

Deakin, Elizabeth (1990, July). Prospect. Landscape Architecture.

DeBoer, Erne (1886). Social Aspects of Transport Planning.

Dyett, Michael (1991). Site Design and Its Relation to Urban Form: Transportation, Urban Form, and the Environment. Transportation Research Board Special Report 231, Washington, DC.

Gibbs, Robert (1992, November). Urbanizing: A Primer on How Downtowns Can Compete with Retail Malls and Strip Centers. Planning and Zoning News.

Michigan Department of State Highways (1969). The Economic and Environmental Effects of One-Way Streets in Residential Areas.

Ministry of Housing (1991, April). The Right Business in the Right Place. The Hague.

Untermann, Richard (1990, July). Streets are for Sharing. Landscape Architecture.

Woodhull, Joel (1991, January). Calmer, Not Faster: A New Direction for the Streets of LA. Prepared for the 70th Annual Meeting of the Transportation Research Board, Washington DC.

Frawley, William E., L. Eisele Williams. 2000. Case Studies of Economic Impacts of Raised Medians on Adjacent Businesses: Study Methodology and Results. Texas Transportation Institute. July 2006.

Parsonson, P.S., M.G. Waters, J.S. Fisher. 2000. Georgia Study Confirms the Continuing Safety Advantages of Raised Medians Over Two-Way Left-Turn Lanes. August 2006. Presented at the Fourth National Conference on Access Control Management.