Toward a Strategic Framework for Investment in Philadelphia's Commercial Corridors

Prepared for the William Penn Foundation

by

The Pennsylvania Economy League and Econsult Corporation®

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INTRODUCTION

Public agencies and quasi-public entities (such as charitable foundations) have allocated significant, scarce resources toward efforts to revitalize Philadelphia's commercial corridors. To date, most decisions about directing these resources have been guided by studies of individual corridors. But corridors and their surrounding neighborhoods are not self-contained mini-economies. Commercial corridors have multiple connections with each other — positive changes in one corridor can have positive or negative impacts on nearby corridors.

To date there has been little effort to document how Philadelphia's commercial corridors interact as a *system*. This study is motivated by a desire to learn how an understanding of the complex interactions within Philadelphia's system of commercial corridors might be used to develop a strategic framework for public and quasi-public investment in revitalizing the city's system of commercial corridors as a whole.

The goal of our study is to lay out a road map for developing a strategic framework to guide efforts to revitalize and reposition Philadelphia's commercial corridors. Such a framework should maximize the local, citywide, and regional benefits of the city's commercial corridor system, while minimizing the adverse affects of corridors that are no longer viable retailing venues.

PHILADELPHIA'S COMMERCIAL CORRIDORS

For the purposes of this study, we adopted the Philadelphia City Planning Commission's (PCPC's) definition of a commercial corridor as a concentration of retail stores, which serve a common trade area and surround and/or lie along a single street. In addition to the stores along a single street, this definition includes other stores that are part of the overall mix of establishments that serve a common trade area. PCPC actually uses the equivalent term "retail center" instead of "commercial corridor." In its 1996 report, the PCPC identified 258 retail centers containing 17,388 retail units occupying 37 million square feet of gross leasable area.

In our view, successful commercial corridors:

- Are made up of successful businesses;
- Often provide neighborhood residents with convenient sources of goods and services at reasonable prices;
- Sometimes provide goods and services to visitors from outside the neighborhood;
- Create a culture of opportunity and success;
- Can enhance the overall attractiveness of their surrounding neighborhoods;
- Can help create a sense of community;

- Contribute to the expansion of their cities, and,
- Can provide a diversity of opportunities in a region.

Just as the growth of a successful corridor can improve the surrounding neighborhood and provide the other benefits listed above, the decline of a corridor can hurt the surrounding neighborhood. If the decline of a corridor appears irreversible, the neighborhood, city, and region all may want to facilitate a transition of the commercial real estate to some alternate use. Moreover, declining corridors that adversely affect their adjacent neighborhoods may still be competitors of other nearby corridors, and therefore adversely affect adjacent corridors and their neighborhoods as well. Because of these spillover effects, which economists call externalities, it is important that the size and number of commercial corridors in the city are well suited to assuring the overall health of neighborhoods, the city, and the region.

THE ECONOMICS OF COMMERCIAL CORRIDORS

Our starting point for evaluating a system of corridors and retail centers is to examine the underlying economic forces that determine the success or failure of commercial corridors. The economic performance of a commercial corridor depends on the viability of the individual businesses that collectively make up the corridor. The viability of the individual businesses, in turn, depends on the *demand* for their products (goods and/or services), the *cost* of providing those products in the corridor, the *competition* from other businesses selling similar products, and *other external and environmental factors* such as demographics, safety, and public investment.

CURRENT DATA AND ANALYTICAL TOOLS: STUDYING INDIVIDUAL CORRIDORS

In light of these economic considerations, we examine the kinds of data and analytical tools currently used to develop individual corridor revitalization strategies. Because we wanted to understand the full range of information and conceptual issues one could learn about individual corridors, we selected four commercial corridors in Philadelphia to use as "laboratories" to analyze opportunities to collect information. We selected four corridors that displayed very different characteristics in terms of demographics, market area, and current success:

- Frankford Avenue/Margaret-Orthodox (the 4400 through 4900 blocks of Frankford Avenue)
- North 22nd Street/Hope Plaza (North 22nd Street between Alleghany and Lehigh Avenues)
- Baltimore Avenue (from 48th Street to 56th Street)
- East Washington Avenue (from 6th Street to 12th Street)

We were able to collect considerable data on these four corridors from government sources at little or no cost and still more data from private vendors at fairly modest cost. These data included information on population, demographics, employment, transportation, income, home ownership, corridor characteristics such as retail sales, product mix, vacancy rates, parking crime, physical infrastructure, zoning, and history. We considered how these data could be used to

inform an analysis of the underlying determinants of corridor performance. In addition to collecting data, we examined how pull factor, leakage, and cluster analysis can be used to analyze data for a particular corridor.

NEED FOR ADDITIONAL DATA

Our review of existing data convinced us of the need for primary data collection focused on understanding corridors in the context of the overall retailing system. To gain an understanding of the issues and difficulties in collecting survey data, we conducted surveys of businesses in three of our four study areas. In general, the overall willingness to participate in our survey was moderate. Roughly half of the businesses that were approached ended up responding to the survey. While these data provide useful information about the businesses surveyed and their customers, they do not provide much information on the overall competitive environment.

A strategic assessment of alternative investments in commercial corridor revitalization requires data that capture the interactions between commercial corridors and, in particular, information that sheds light on how consumers choose their retail venues. The ideal data to use for a comprehensive commercial corridor investment assessment would be a large household survey of shopping choices. Such survey data would identify the set of retail locations patronized by each household for various classes of products. Citywide household survey data can provide information that is typically not available from either business surveys or shopper intercept surveys. Surveys of businesses, like those we conducted, provide information about businesspersons' perceptions of their markets and of customer attitudes. Shopper intercept surveys provide information regarding the geographic boundaries of a corridor's market area as well as information on shoppers' perceptions of the corridor and competing retail venues. Neither type of survey provides information on those households choosing not to shop on the corridor. Consequently, while the shopper intercept survey and business survey provide some insight into the market area of the corridor, it gives little information about the share of that market attained by the corridor or about why some shoppers go elsewhere.

DATA AND TOOLS FOR ASSESSING A SYSTEM OF CORRIDORS

The analytic tools typically available to economic development specialists seeking to revitalize commercial corridors, taken by themselves, may be sufficient to provide enough information to devise effective strategies for individual corridors. Those tools are, however, insufficient to guide corridor investment from a citywide or regional perspective because:

- Leakage studies describe only the current competitive snapshot but usually do not provide insight into the trends in corridor performance.;
- Leakage studies are generally specific to centers or areas but do not provide information about the complex flows of retail dollars across the set of corridors and retail centers;

- Commonly used analysis tools do not provide insight regarding the determinants of the size of market areas or insight about how market areas change as investments or policies change, and,
- Some factors that are viewed as constraints by individual corridors may actually be choices for governments or foundations with citywide or region-wide perspectives.

Given sufficient, geo-coded survey data, there are two types of models that, when used together, can overcome these limitations. First, if time series data are available for a particular corridor for a particular outcome variable such as retail sales per square foot, one can specify simple forecasting models in which the outcome is related to corridor and neighborhood characteristics. Second, models of households' choices among retailing venues can be used to describe household shopping patterns as a function of household characteristics and corridor characteristics. Models of this type estimate the probability that a particular household chooses a particular retailing venue. Once these two types of models have been estimated, they can be used as the basis for simulation models. It would be possible to use such models to project the likely impacts of changes in corridor-level, market-area-level, or citywide strategies. The simulation models animate the city retailing map, providing insight into the consequences of new investments and changes in policy.

While simulation models that map the impacts of investments and changes in policy provide the best way to evaluate alternatives, they are likely to be too complex to be used for all but the largest investments. For evaluation of smaller investments, simple rules of thumb based on the knowledge underlying the simulation models are needed.

TOWARD A STRATEGIC INVESTMENT FRAMEWORK

We believe that a strategic framework for investment in commercial corridors should:

- Reflect the goals and objectives of the investors;
- Provide metrics to evaluate investment performance;
- Be based on data and analytical models that adequately capture the forces affecting performance, and,
- Distill research into tools that investors can use.

While private sector investors usually focus on profitability, public and quasi-public investors are likely to focus on issues such as economic viability, quality of life, and equity rather than financial return. The difficulty of defining these goals makes both investment choices and performance evaluation much more complex. Goals and objectives, therefore, must be clearly delineated and connected to measurable outcomes. This link is crucial because one can only develop models of outcomes that are readily observed, and one can only evaluate changes in such outcomes.

The goal of the strategic investment tools should be to provide a simple set of rules of thumb that reflect the underlying data and relationships, and that can be used to help guide investment choices. These rules of thumb should identify key ingredients for success (as defined by investor

objectives) and provide indicators of likely investment outcomes. Such rules could be based on two typologies, one of corridors and one of interventions.

As was done for residential areas in the Neighborhood Transformation Initiative (NTI), there is a need to classify corridors by their characteristics and potential. Based on the data and models we discuss in this report, these classifications should identify, at a minimum, each corridor's type and market viability. In addition to a typology of corridors, we see a need to develop a typology of interventions. Once the typologies of corridors and interventions are in hand, one could use the data and analytical tools discussed in this report to develop rules of thumb regarding the likely success or failure of different types of interventions in different types of corridors. These rules of thumb would help identify corridors that are likely to prosper without intervention and corridors whose retail success could be boosted by particular types of investments. In addition, these rules of thumb could also identify current corridors that should be considered for new non-retail uses based on their poor future market viability, their negative influence on neighborhood outcomes, or the negative consequences of competition with other corridors.

CONCLUSION AND NEXT STEPS

Our principal conclusion is that it is possible, practical, and desirable to develop tools to build a strategic framework for the evaluation of corridor investments and policies based on the goals of public and quasi-public decision makers. Once the goals are clearly specified, they should be linked, via economic theory, to the decision variables such as investments or regulatory changes, but theoretical models alone will not be sufficient to guide decisions. Rather, the theory should guide the construction of statistical models based on real data. Once the statistical models are in hand, they can be used as the bases for simulation models that will predict the likely impacts of alternative interventions. Obtaining such predictions for major interventions will be a complex and difficult process that may require outside technical experts to assist many decision makers. For smaller interventions, decision makers need trustworthy rules of thumb that they can apply. Such rules can be developed, but deriving them will require complex analysis.

The theory and statistical methods required are, for the most part, well understood. The difficult parts of the process will be collecting, organizing, and analyzing the necessary data. Much of the required information is readily available from secondary research; some is freely available from government sources, and some will have to be purchased from vendors. There are, however significant gaps, such as household survey data, that must be filled by primary research. Our own preliminary efforts at primary data collection in this study have convinced us that useful data can be collected, but the costs of doing so will be significant.

Our study has convinced us that data-driven system analyses and rules of thumb can help public and quasi-public investors make better decisions that will, in turn, enhance the performance of Philadelphia's commercial corridors. The next step is to begin the collection of the necessary data.

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The Pennsylvania Economy League – Eastern Division (PEL) is an independent, nonpartisan, nonprofit policy research and development organization. The mission of PEL is to provide critical information, perspective and support to the business, civic, and governmental leadership of communities and the state in their efforts to make Pennsylvania a better place to live, work, and do business.

Econsult Corporation is an economic consulting firm located in Philadelphia. Its core mission is to provide quantitative economic research and model-based solutions to companies and government agencies in support of litigation, economic development, transportation planning, and public policy.

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I. INTRODUCTION

Public agencies and quasi-public entities (e.g., charitable foundations) have allocated their scarce resources toward efforts to revitalize Philadelphia's commercial corridors. These public and quasi-public investments often serve as catalysts for the private investments needed for positioning the corridors for long-run success. Thus, the decisions regarding where and how to invest are critical.

Public agencies and quasi-public entities (e.g., charitable foundations) have allocated their scarce resources toward revitalization efforts to improve Philadelphia's commercial corridors.

To date, most of these decisions have been guided by studies of individual corridors, but corridors and their surrounding neighborhoods are not self-contained mini-economies. Commercial corridors have multiple interconnections such that positive changes in one corridor can have positive or negative impacts on other nearby corridors. To date there has been little effort to understand exactly how corridors fit together, that is to understand *systems* of corridors and retailing centers. This study is motivated by a desire to learn how an understanding of the complex interactions within Philadelphia's system of commercial corridors might be used to develop a strategic framework for public and quasi-public investment in revitalizing the city's system of commercial corridors as a whole.

To date, most of these decisions have been guided by studies of individual corridors, but corridors and their surrounding neighborhoods are not self-contained mini-economies.

This study is motivated by a desire to learn how an understanding of the complex interactions within Philadelphia's system of commercial corridors might be used to develop a strategic framework for public and quasi-public investment in revitalizing the city's system of commercial corridors as a whole.

This study was funded by a grant from the William Penn Foundation to The Pennsylvania Economy League – Eastern Division (PEL). PEL, in turn, retained Econsult Corporation to conduct the study with the assistance of PEL. This study has been much improved by the input of our advisory committee (See list on page x of the Executive Summary) and many others who have generously shared their views and their time (See Appendix I). The conclusions expressed in this report are those of the authors. While we welcome support from any quarter, our conclusions and recommendations should not necessarily be attributed to the William Penn Foundation, its directors, its employees, our advisory committee, or anyone else.

There are eight sections of this report including this one. In the next section, we define what we mean by the term "commercial corridor" and consider the impacts of successful corridors. In Section III, we discuss the economics of corridor success and failure. Next in the fourth section, we explore the data and analytic methods that are available to examine individual corridors. In Section V, we discuss the limitations of available data and our efforts to collect new types of data. Then we consider data and methods for analyzing systems of corridors in the sixth section. In the seventh section, we discuss the development of a strategic framework for multi-corridor analysis of public and quasi-public investments. In the final section, we discuss the conclusion we draw from our study and some next steps.

II. PHILADELPHIA'S COMMERCIAL CORRIDORS

In this section, we set the stage for our discussion of our study of Philadelphia's commercial corridors. First, we define what we mean by the term "commercial corridor." Second, we discuss the roles that commercial corridors generally play in the economy and the community, and how to tell whether a particular corridor is succeeding or failing in fulfilling those roles.

II.A. WHAT IS A COMMERCIAL CORRIDOR?

One of the first tasks of this study is to define the term "commercial corridor." Our focus is on retail stores and not on wholesale establishments, business service providers, manufacturing facilities, offices, or government agencies. While properties within commercial corridors are sometimes put to these uses, the focus of our definition is the provision of goods and services to retail customers.

One of the first tasks of this study is to define the term "commercial corridor."

Because of zoning restrictions and transportation patterns, concentrations of retail establishments often lie along single streets. In some places, however, we find a concentration of stores along two or more parallel streets such as Chestnut, Sansom, and Walnut Streets in Center City. In other places we observe a concentration along one street that intersects a concentration along another street as occurs where East Washington Avenue crosses Ninth Street (the Italian Market). The potential problem with a narrow definition is that, in some cases, the concentration of stores along a single street may not be the best unit for analysis because the stores are economically and socially integrated with stores lying along a parallel or intersecting street.

Existing research analyzes retail concentrations of different geographic scopes. Some research has focused narrowly on commercial concentrations along a single street while others have relied on the idea of a common commercial trade area to define retail concentrations. For most purposes, we prefer a broader definition such as:

> *A commercial corridor is a concentration of retail stores, which serve a common trade area and surround and/or lie along a single street.*

A commercial corridor is a concentration of retail stores, which serve a common trade area and surround and/or lie along a single street.

In addition to the stores along a single street, this definition includes other stores that are part of the overall mix of establishments that serve a common trade area. This definition has two significant advantages over a more narrow definition that would consider only stores along a single street. First, where multi-street concentrations are truly economically integrated, the use of the broader definition provides a more complete picture. For example, some view the East Washington corridor as the product of outward growth of the Italian Market. If the two corridors are defined separately, an important part of the story might be overlooked. The second advantage of the broader definition is that it has been adopted by the Philadelphia City Planning Commission (PCPC).

PCPC's long experience working with Philadelphia retail concentrations has led it to choose this definition.[1] Furthermore, as PCPC is the primary source for data on the city's retailers, using their definition will allow easy use of the data they collect.

There is one potential disadvantage of using broader definitions - one may miss the idiosyncrasies of smaller concentrations. For example, combining the stores on Chestnut, Sansom, and Walnut Streets west of Broad Street into one unit of analysis obscures the facts that Chestnut stores tend to be larger, Sansom stores are smaller and include more restaurants, and stores on Walnut Street tend to be more upscale. Those interested in a particular corridor would be wise to look out for this sort of within-corridor variation.

The broader definition relies on the concept of a trade area, which, although important, is difficult to define. As we discuss below, the customers of a group of stores may come from a very confined or very wide geographic area. Moreover, the trade area may not be the same for different types of retail businesses, even though they are within the same retail concentration. For these reasons, it may also be difficult to define the neighborhood that it is likely to be most affected by changes in a particular corridor. We shall explore both of these issues in later sections of this report.

Another component of a definition of a commercial corridor is the minimum size that a concentration of stores must be to be considered a corridor. The threshold should be high enough to exclude one or two small isolated stores, but it should not be so large that it excludes substantial groups of stores. In its 1996 report, PCPC placed the threshold at 10,000 square feet of gross leasable area.[2] Those who want to use the PCPC data, as do we, would be well advised to adopt the same threshold.

In its 1996 report, the PCPC identified 258 retail centers (what we call commercial corridors) containing 17,388 retail units occupying 37,000,000 square feet of gross leasable area. These totals imply an average store size of just over 2,100 square feet and an average of 67 stores per center. These averages are potentially misleading because of the enormous variation around them. For example, the centers range "from neighborhood-oriented shopping strips and clusters which contain at least ten retail-type units, to region-serving malls and downtown districts, and from eclectic entertainment districts to stand-alone supermarkets."[3]

In its 1996 report, the PCPC identified 258 retail centers (what we call commercial corridors) containing 17,388 retail units occupying 37,000,000 square feet of gross leasable area.

[1] This discussion is based in significant part on comments received from John Haak of PCPC.

[2] Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996.

[3] Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996, p. 1.

II.B. DEFINING SUCCESS – THE ROLES OF COMMERCIAL CORRIDORS

The goal of our study is to begin to develop a strategic framework based on an analysis of corridors in the context of the overall retailing system that will be useful in guiding efforts to revitalize and reposition Philadelphia's commercial corridors.

The goal of our study is to begin to develop a strategic framework based on an analysis of corridors in the context of the overall retailing system that will be useful in guiding efforts to revitalize and reposition Philadelphia's commercial corridors. The best way to begin to develop such a framework is to explicitly state the various perspectives on what constitutes a successful commercial corridor.

People living near a commercial corridor may see the corridor as a place to purchase goods and services, to work, or to start a business, and a place that shapes the character of the neighborhood (for better and for worse). Visitors from other neighborhoods may also see the corridor as a place to shop and as a defining feature of the neighborhood. Merchants in a corridor see it as a source of livelihood, while merchants outside of a corridor may see it as a potential source of competition. Governments look at a corridor as a site of economic activity and a potential focus of public policy and/or investment that can strengthen the neighborhood. Community activists, faith-based organizations, philanthropic organizations, and other quasi-public entities may see a corridor as a potential focus for investment in neighborhood improvement.

Both governments and quasi-public organizations want their investments to pay off in some sort of neighborhood improvement. At the same time, they do not want their investments to replace private investments that would otherwise have occurred. These two concerns may be in conflict. That is, many promising investments are likely to be made privately, so governments and quasi-public organizations try to focus on investments that promise substantial payoffs but are unlikely to be made by the private sector. For example, a single merchant might not invest in sidewalks and street lights because he would be unable to capture much of the neighborhood's benefit from such an investment. Such an investment may be attractive to a government agency or quasi-public organization interested in the generation of benefits not easily captured by private investors. One of the key goals of public and quasi-public investment should be to encourage private sector investment in commercial corridors.[4] We shall discuss the choice of such investments in much more detail in Section VI of this report.

We have identified eight categories of benefits that can be generated by successful commercial corridors.

We have identified eight categories of benefits that can be generated by successful commercial corridors. Different people may place different emphases on the various types of benefits, so we list them below in no particular order.

[4] Governments and quasi-public organizations may invest in commercial corridors for reasons other than economic development and spurring private investment. These reasons include assuring that basic human needs are met, safety, and equity-related issues. However, the focus of our analysis is on investment that encourages sustainable, self-supporting improvement in commercial corridors—and that means creating a climate in which private sector economic returns are sufficient to attract private investment into activities that are beneficial to the neighborhood, city and region.

Successful commercial corridors

… are made up of successful businesses.

First, successful commercial corridors are made up of successful businesses. The stores in more successful corridors are likely to have higher sales per square foot, rental rates, and commercial investment as well as lower vacancy rates. Businesses in a successful corridor usually capture significant market share in their market areas.

… often provide neighborhood residents with convenient sources of goods and services at reasonable prices.

Second, successful commercial corridors often provide neighborhood residents with convenient sources of goods and services at reasonable prices. Almost all residents would prefer to shop close to home if they can buy the things they want at reasonable prices. Local availability of goods and services allows savings of time and transportation costs.

… sometimes provide goods and services to visitors from outside the neighborhood.

Third, successful corridors sometimes provide goods and services to visitors from outside the neighborhood. While some corridors sell almost exclusively to neighborhood residents, others draw customers from other neighborhoods. People may shop where they work, where they commute, or where they like to visit. To the extent that a corridor offers goods or services that are not widely available, it may draw customers from a very wide geographic area.

… create a culture of opportunity and success.

Fourth, successful commercial corridors create a culture of opportunity and success. They can provide employment opportunities for residents and non-residents. Corridors are not usually considered engines of employment, but retailers have to employ clerks, service providers, and managers. The retail establishments in a corridor may draw those people from the surrounding neighborhood or other neighborhoods, but jobs are created either way. Corridors can also provide new business opportunities. Entrepreneurs can start new retail businesses in commercial corridors. The retail businesses can, in turn, generate economic activity including employment in the firms (located inside or outside the corridor) that sell goods and services to the retailers.

… can enhance the overall attractiveness of their surrounding neighborhoods.

Fifth, successful commercial corridors can enhance the overall attractiveness of their surrounding neighborhoods. Local availability of goods and services, physically attractive stores, and crime reduction due to more "eyes on the street" are just a few of the ways in which successful commercial corridors can make neighborhoods more attractive to residents and potential residents. As neighborhoods become more attractive, the values of residential and commercial real estate in those neighborhoods are likely to increase prompting residents and businesses to make additional investments.

… can help create a sense of community.

Sixth, successful commercial corridors can help create a sense of community. A thriving, attractive commercial corridor can be a significant source of neighborhood identity and pride. Neighborhood pride can, in turn, inspire other community improvements such as the rehabilitation of residential real estate or the creation or rehabilitation of parks and playgrounds.

… contribute to the expansion of their cities.

Seventh, successful commercial corridors contribute to the expansion of their cities. As corridors within a city prosper, they reduce citywide leakage to retail centers outside the city. They can also cause reverse leakages of suburban

demand into the city. Any economic success of a corridor contributes to the success of its city.

Eighth, a system of successful commercial corridors can provide a diversity of opportunities in a region. By having healthy commercial corridors with distinct local flavors that are not easily replicable, the city and region distinguishes itself from competing regions. Having a broad, diverse set of retail opportunities means that the region will appeal to a larger set of potential residents and business owners.

… can provide a diversity of opportunities in a region.

Just as the growth of a successful corridor can improve the surrounding neighborhood and provide the other benefits described above, the decline of a corridor can hurt the surrounding neighborhood, but the two impacts need not be symmetric. That is, the negative impact of a declining corridor may be larger than the benefits of a successful corridor. Declining corridors are likely to suffer high vacancy rates and deterioration of real estate that dramatically reduces the appeal of a neighborhood. If the decline of a corridor appears irreversible, the neighborhood, city, and region all may want to facilitate a transition of the commercial real estate to some alternate use. Moreover, declining corridors that adversely affect their adjacent neighborhoods may still be competitors of other nearby corridors, and therefore adversely affect adjacent corridors and their neighborhoods as well. Because corridors have neighborhood externalities, it is important that size and number of the city's commercial corridors are well suited to assuring the overall health of neighborhoods, the city, and the region.

If the decline of a corridor appears irreversible, the neighborhood, city, and region all may want to facilitate a transition of the commercial real estate to some alternate use.

It should also be noted that some successful businesses in commercial corridors could have negative impacts on their surrounding neighborhoods. Certain types of retail establishments may attract undesirable individuals to the neighborhood. Other types of establishments may encourage teenagers to congregate in large numbers. Crime may increase instead of decreasing as suggested above. Increases in retail activity can also be accompanied by traffic or other congestion problems or by increased levels of noise. Those who would encourage economic activity in corridors should be mindful of the potential for negative impacts.

III. THE ECONOMICS OF COMMERCIAL CORRIDORS

Our starting point for evaluating a system of corridors and retail centers was to examine the underlying economic forces that determine the success or failure of commercial corridors. The economic performance of a commercial corridor depends on the viability of the individual businesses that collectively make up the corridor. The viability of the individual businesses, in turn, depends on the *demand* for their products (goods and/or services), the *cost* of providing those products in the corridor, the *competition* from other businesses selling similar products, and *other external and environmental factors* such as demographics, safety, and public investment.

III.A. FACTORS DRIVING DEMAND

Commercial corridors succeed when the businesses in the corridors succeed. In order for a retail business to succeed, there must be significant demand for the products it provides, so it is important to consider the determinants of the demand for the products offered by a retail business.

Commercial corridors succeed when the businesses in the corridors succeed.

The amount of a particular product that a particular person buys depends on the price of the product as well as the person's preferences (what the person needs and wants) and income (what the person can afford). Whether the person buys the product from one business or another depends on relative accessibility, attractiveness, and price.

The accessibility of a retail store depends on proximity and transportation options. People who live, work, or frequently travel near a particular store are more likely to buy there. A major determinant of the demand facing a particular business, then, is the number, preferences, and incomes of people who live, work, or visit in the immediate area. Population density, preferences, and income all vary from one neighborhood to another. The demand for the products of a particular business will be larger when the population density is higher, the products appeal to local preferences, and/or income is higher. It is important to recognize that these factors can compensate for each other. For example, a business in a neighborhood with modest income may prosper if the neighborhood population is large or if the products offered have particular appeal to that population. Accessibility can also be enhanced by the availability of transportation. A business in a sparse, low-income neighborhood may succeed if it is located on a major auto or transit route so that buyers can come from other neighborhoods. Convenient parking can also enhance accessibility.

The accessibility of a retail store depends on proximity and transportation options.

The relative attractiveness of a particular business in a commercial corridor depends largely on the relative attractiveness of the entire corridor, which in turn depends on the number and characteristics of all businesses in the corridor and on characteristics of the neighborhood such as physical attractiveness and security. Shopping venues that are perceived to be attractive sources for many goods are likely to have advantages in selling other goods because customers

Shopping venues that are perceived to be attractive sources for many goods are likely to have advantages in selling other goods because customers drawn to one store are likely to patronize nearby stores as well.

drawn to one store are likely to patronize nearby stores as well. The recognition that the demand for goods at any one store is affected by the offerings of surrounding stores has been a major factor in the growth of town centers and commercial corridors and, later, of strip shopping centers, regional malls, and retail power centers. In addition to these synergies, stores in a corridor will jointly benefit from aesthetic or security improvements in the neighborhood. These synergies and other interdependencies among stores are carefully managed by single owner shopping areas such as regional malls and strip shopping centers.[5] Classic, large department stores are attempts by single retail businesses to create synergies. In older, multi-owner commercial corridors, these issues have proven more difficult to manage, although strong business associations and business improvement districts have increasingly addressed these issues. We return to these issues in the next section.

Relative price can be another important determinant of the success of a retail business. For example, residents may leave the neighborhood to shop in a large supermarket if its prices are significantly lower than the only small grocery in the neighborhood. Of course price is seldom the only criterion because there may be transportation and other personal costs associated with shopping outside one's neighborhood. The small neighborhood grocery, therefore, may be able to compete with a distant supermarket without fully meeting its prices.

III.B. COSTS OF DOING BUSINESS

Demand is only one of the major determinants of the success or failure of a retail business; another important determinant is the cost of operating the business. That cost depends on the prices of inputs such as retail space, labor, inventory, and business services and on the efficiency with which these inputs are transformed into the final product. The costs of selling a good or service include not only the cost of obtaining the good or producing the service, but also the cost of making the store accessible and/or attractive to prospective customers.

Demand is only one of the major determinants of the success or failure of a retail business; another important determinant is the cost of operating the business.

The various dimensions of cost may be interrelated. For example, if a business attempts to lower its cost by leasing space in a less accessible or less secure area, that business may find that it needs to make additional compensating expenditures to create parking or to install security equipment. Without such expenditures, the store may not be able to draw enough customers to be viable, but an individual business owner will undertake such investments only if they are profitable from the narrow point of view of that single business. Any benefits that might accrue to neighboring businesses will be irrelevant to the profit calculation of the first business. Because each business tends to ignore the benefits that its investments might bestow on others, there will be a strong tendency for the businesses in a given area to underinvest as a group.

Because each business tends to ignore the benefits that its investments might bestow on others, there will be a strong tendency for the businesses in a given area to underinvest as a group.

[5] Such centers may also take steps to avoid negative synergies such as having two very similar stores in the same group. Retail leases sometimes specify that a particular store will be the only such business in the center.

As an example consider a hypothetical corridor made up of 40 stores and imagine that an annual "Spring Spuce-Up" project costing a total of $80,000 would increase the attractiveness of the corridor in such a way as to increase the year's profit of each store by $5,000.[6] Such a project should be very attractive to the shops because, as a group, they could realize a $200,000 return (40 times $5,000) on an $80,000 investment, but no individual business will be willing to incur the $80,000 cost alone for its own return of $5,000. It would clearly make sense for each business to contribute $2,000, so that the $80,000 (40 times $2,000) could be raised to fund the program, and each business could realize a $3,000 net gain, but such arrangements are difficult to make without government intervention.

The "Spring Spruce-Up" project is a hypothetical example of what economists call a public good, and both economic theory and actual experience suggest that it is very difficult to arrange voluntary funding of public goods.

The "Spring Spruce-Up" project is a hypothetical example of what economists call a public good, and both economic theory and actual experience suggest that it is very difficult to arrange voluntary funding of public goods. This difficulty is often called the "free rider" problem because businesses are likely to try to take advantage of a public good without paying for it so that public goods get underfunded or not funded at all.[7] It is instructive to note that the free rider problem does not occur in the single-owner retail center. The single owner can make investments that enhance the profitability of all of the stores in the center and earn a return on the investment in the form of higher rents. For example, single-owner retail centers almost always provide free parking that is available to customers of all stores.[8] If a single business owner on a commercial corridor were to provide a free parking lot, it would be used by shoppers to visit shops all along the corridor. The other businesses would benefit without bearing the costs. Of course, each business might be able to create parking spaces dedicated to its own customers, but this approach is likely to be inefficient for three reasons. First, each business would have to incur costs of monitoring usage. Second, because different stores are likely to experience their peak demands at different times, the dedicated parking approach would require more spaces than a shared parking facility. Finally, an individual business may not have enough land to create their own parking, while a group of businesses might be able to jointly lease an available lot.

Philadelphia's Special Services Districts are a good example of a government mechanism by which businesses can fund public goods in their neighborhoods.

Public goods provide one rationale for the involvement of government in the economy because government can, through taxation, force businesses to pay for the benefits they derive from public goods. Philadelphia's Special Services Districts are a good example of a government mechanism by which businesses can fund public goods in their neighborhoods. Businesses in these districts pay additional taxes to fund additional security, sanitation, and other services. Private neighborhood business associations may be able to perform a similar

[6] Clearly different businesses could realize different benefits from such a program, and some might get no benefit. Such considerations are not central to the thrust of our example, so we make the simplifying assumption that the benefits are uniform.

[7] It should be noted that the free rider problem can become even more challenging if different businesses anticipate different benefits from the public good.

[8] The parking is not free, of course; it is paid for through the rents paid by retail tenants, which in turn is paid for by consumers.

function but only if they can replace the power to tax with civic pride and/or peer pressure. As we argue below in Section VI, carefully selected subsidies of public goods are appealing investment vehicles for government agencies or charitable foundations that want to help specific corridors because such investments are unlikely to replace private expenditures that would have otherwise occurred.

III.C. COMPETITION AND MARKET AREA

Another very important determinant of the success of any retail business is the competition that it faces. Retailers in a commercial corridor can face competition from any of five sources:

- Other retailers on the corridor selling similar goods;
- Retailers on other commercial corridors serving the same market area;
- Neighborhood stand-alone stores selling wide ranges of products like CVS;
- Modern retail centers with wide-area retail sheds, and,
- Internet and catalogue sales.

The competition faced by a particular retail business or group of retail businesses is often described in terms of a market area – a somewhat vague concept. The market area of a corridor is thought of as containing all the businesses that compete significantly with businesses in the corridor. From the perspective of a corridor's customers, the market area includes all of the retailers that would be actively considered as alternatives to those in the corridor. A market area may not be contiguous – the market area for a neighborhood corridor could include a large strip mall several miles away.[9] And a market area may not be defined geographically at all if it includes "virtual" competitors on the internet. The intensity of competition that a retail corridor confronts depends on what particular products are sold, the mobility of the population inside and outside the neighborhood, and the distribution of retailers outside the corridor.

The market area of a corridor is thought of as containing all the businesses that compete significantly with businesses in the corridor.

The affects of product mix and mobility are closely intertwined. First, some products are difficult to transport, like heavy groceries for those without cars, or not high enough in value to justify significant transport costs, like take-out food. In such cases market areas are likely to be tightly circumscribed. Other products may be exclusive to a particular business, such as private label designer

[9]There is a long tradition of thinking of a hierarchy of retail locations. In this view, the central location has the largest concentration of retailing and the greatest variety of goods and services. Many of these goods and services are sold to customers traveling a considerable distance to the center. Regional centers constitute the next level in the hierarchy. These centers serve less broad retailing areas and have less diversity of product than the central location. There is more than one regional shopping site, and each of these sites serves their own market area. Retail concentrations become smaller as distance from the center increases. The smallest centers provide only products for neighborhood residents. With ubiquitous automobile travel, this exact notion of retailing hierarchy is less appropriate than in the first half of the twentieth century.

clothing, so that competition is limited and the market area is very wide geographically. Still other products are very standard, easy to transport, and widely sold so that businesses selling these commodities are likely to experience vigorous competition. Sales of such products are likely to be highly price-sensitive, and the businesses that will survive selling these products will either be providing the product at relatively low prices or selling to customers whose access to competitors is somehow restricted, like a small grocery store selling to neighborhood residents who do not have access to automobiles.

Demographic shifts, transportation changes, and innovation in retailing have significantly changed, and will continue to change, the competitive landscape confronting commercial corridors.

The distribution of retailers in a market area evolves over time. Most commercial corridors in Philadelphia developed in response to neighborhood demand as the city grew during a period of relatively limited personal mobility. The dense urban neighborhoods supported many commercial corridors, often located along public transit lines. Demographic shifts, transportation changes, and innovation in retailing have significantly changed, and will continue to change, the competitive landscape confronting commercial corridors.

Modern retailers have focused on locations with single-owner shopping facilities with larger footprints and parking or on large, stand-alone stores with ample parking. Retailers, therefore, have tended to locate new stores near, but outside of, existing corridors. These stores are pursuing many of the customers that patronize stores on commercial corridors. At the same time, increasing customer mobility has resulted in greater competition for corridors from other corridors as well as from modern, auto-oriented shopping venues. The construction of large, new, auto-oriented stores, both nearby and in regional centers, coupled with increasing auto ownership and mobility by customers have put increasing competitive pressure on commercial corridors. This competitive pressure has made it difficult for individual corridors to maintain the mix of stores and quality of environment necessary to maintain their customer base.

It should be noted that increasing mobility of customers can be a positive force for corridors that sell unique, export oriented products (those likely to be sold to customers from outside the immediate neighborhood) or corridors that are effectively selling a particular atmosphere. Increased mobility of customers means that such corridors can draw customers from a larger market area.

Competition leads to lower prices, but intense competition from outside a corridor can threaten the viability of businesses in the corridor.

From the point of view of those who live near a corridor, external competition can be a two-edged sword. Competition leads to lower prices, but intense competition from outside a corridor can threaten the viability of businesses in the corridor. If the businesses in a corridor fail because of outside competition, there are likely to be two types of problems. First, the subset of customers who would prefer to shop in the corridor even at higher prices, because of lack of mobility or other considerations, will be unable to do so. Second, dying businesses will leave a legacy of vacant and deteriorating commercial real estate that may attract "undesirable" businesses or otherwise reduce the attractiveness of the entire neighborhood. As we argue below in Section VI, it may be very difficult to revitalize a corridor that has declined largely because of outside competitive pressure. Governments and foundations may need to consider different approaches for helping neighborhoods that contain such corridors.

III.D. OTHER EXTERNAL AND ENVIRONMENTAL FACTORS

Many of the factors that affect the demand, cost, and competition of a corridor are the results of trends outside the control or influence of businesses on the corridor. These forces include demographic trends, technological change, and public policy choices. These forces can be national, regional or local in nature.

Many of the factors that affect the demand, cost, and competition of a corridor are the results of trends outside the control or influence of businesses on the corridor.

At the national level, demographic trends such as the age composition of the US population will favor some types of locations and products over others. The aging of the US population is resulting in a greater demand for locations that have amenities desired by people approaching retirement age.[10] Another national shift in the country's demographics is the relatively large number of people in the adult pre-family formation age group.[11] This group could be a natural market for Philadelphia's urban commercial corridors.

Technological change is an international and national phenomenon, which has clear impacts on the geography of economic activity. Automotive transportation and information technology advances have dramatically increased the mobility of the average consumer. This change has increased the market dominance of auto-centered, parking (and land) intensive retailing. On the other hand, information technology has introduced new, online competition for commodities. Together these technological innovations mean that the local retail corridor's time and travel cost advantages have diminished, and they need to identify other comparative advantages.

Public policy choices at the national level also shape the competitive landscape for commercial corridors. On the negative side, heavy investment in auto transportation and significant subsidies for housing have reduced the overall comparative advantages of cities relative to suburbs. (These public policies reinforce the economic fact of rising incomes, which make auto use more affordable and increase the average preferred size of housing.) One policy that has significantly helped urban commercial corridors is immigration. High immigration levels have increased demand for urban locations, increased demand for goods sold in urban commercial corridors, and increased the diversity of products available in urban markets.

One policy that has significantly helped urban commercial corridors is immigration.

State and regional public policy choices also affect the distribution of activities between cities and suburbs and within cities themselves. States are major

[10] William Keeton, 2003.

[11] Peter Linneman has noted that demographic trends are currently well suited to the success of cities and urban markets. In particular, there are a relatively large number of pre-family formation adults who tend to prefer urban environments. Moreover, these adults are getting married later, which makes them more likely to make urban areas their permanent home. Finally, at the other end of the spectrum, empty nesters are prime candidates for urban neighborhoods that can provide suitable amenities. One reason both of these groups are candidates for urban locations is that the negative consequences of poor public schools is less of a direct concern.

players in transportation investment choices. In Pennsylvania, for example public transit is funded largely by the state. In Pennsylvania, the state also affects the distribution of economic activity in cities through it empowerment zone program. Programs that shift activity within the city can potentially benefit some corridors while harming others. Smart growth policies, which are important in states such as New Jersey, Maryland, and Oregon, also can affect the fortunes of urban commercial corridors by altering the distribution of new economic activity and population. In Greater Philadelphia, the Delaware Valley Regional Planning Commission (DVRPC) is increasingly focusing on regional plans that emphasize the vitality of older communities, which should, in the long run be helpful to existing commercial corridors.

At the city and neighborhood level, changes in the size, racial/ethnic composition, average age, or household income of a neighborhood population can have profound impacts on the viability of businesses in the associated commercial corridor.

At the city and neighborhood level, changes in the size, racial/ethnic composition, average age, or household income of a neighborhood population can have profound impacts on the viability of businesses in the associated commercial corridor. Discussions of commercial corridors usually focus on the effects of corridors on their surrounding neighborhoods, but there are many types of exogenous neighborhood changes that can have profound affects on retail businesses in a corridor. The opening or closing of a large employer, government office, or health care provider could dramatically affect nearby retail businesses by significantly increasing or decreasing the number of potential customers. Major new retail developments outside the corridors may adversely affect traffic in corridors. Corridors in neighborhoods that experience systematic decreases in population and/or income are unlikely to remain economically viable unless they serve broad regional markets.

In many respects these shifts are beyond local control, but cities make policy choices that directly affect the viability of all corridors in the city as well as the distribution of successful corridors across the city. Public policy can affect retail businesses in many ways. The city is likely to engage in a myriad of choices regarding transportation, zoning, public service provision and public subsidies that affect the spatial distribution of economic activity and hence individual corridors.

Local tax laws can affect the viability of the entire community as well as the vitality of individual retail businesses.

Local tax laws can affect the viability of the entire community as well as the vitality of individual retail businesses. Philadelphia's tax structure places a notably high burden on both residents and businesses, adversely affecting the size of the city and the size of the potential market available for commercial retailers. Recognizing that the city's tax burden is fairly onerous, the city frequently makes tax concessions or explicit subsidies to aid specific projects. For example, in an effort to attract Kvaerner, the City of Philadelphia provided $49 million in direct subsidies and an additional $10 million in low interest loans to the international engineering and construction company.[12] The distribution of the city tax breaks can directly affect the viability of commercial corridors.

[12] August 4, 1998 Commonwealth of Pennsylvania news release. In addition both the federal and state governments provided subsidies to attract Kvaerner.

Just as taxes affect the overall attractiveness of the city as well as favor some areas over others, so can public services. A major negative aspect of the city's services is the poor quality of its public schools – which directly affects the attractiveness of the city for households with children and indirectly affects vendors in commercial corridors who market to these families. Other public services are important as well. If the city provides safe, clean environments, the commercial districts will be more attractive and have lower costs, increasing the likelihood of their success. Local transportation choices also play important roles in the viability of commercial corridors. A change in traffic patterns or public transit routes or changes in road and highway investments could affect retailers positively or negatively. The distribution of city services is not uniform across the city, and to the extent that some areas receive better services than others, they will have advantages.

Just as taxes affect the overall attractiveness of the city as well as favor some areas over others, so can public services.

Through zoning codes, the city has direct impacts on commercial corridors. Zoning regulations will have a major influence on the locations and characteristics of retail businesses in a commercial corridor. In fact, it may be past or current zoning regulations that determine the boundaries of a particular corridor. Zoning regulations can also determine the types, sizes, and other physical characteristics of retail stores in a corridor.

Zoning regulations will have a major influence on the locations and characteristics of retail businesses in a commercial corridor

Public policy – whether through taxes, services, subsidies, or regulation – can directly affect the viability of commercial corridors through impacts on the corridor itself, through effects on the surrounding neighborhood, and through the effects on the overall size of the city economy. In Section VI, we discuss principles that we think should guide public policy regarding commercial corridors, at least at the local, city, and state levels of government.

IV. CURRENT DATA AND ANALYTICAL TOOLS: STUDYING INDIVIDUAL CORRIDORS

Retailing in a city or region is a complex array of retailing centers that compete for the business of consumers who can either shop locally, travel significant distances to shop, or shop on line. In this study, our primary goals are to gain a better understanding of the future role of commercial corridors in the overall retailing system and to provide tools to help guide investments in commercial corridors that are most likely to achieve their objectives. This focus on the *system of corridors and retail centers* distinguishes this work from most other work that has focused on *individual corridor* revitalization strategies.[13]

This focus on the system of corridors and retail centers *distinguishes this work from most other work that has focused on* individual corridor *revitalization strategies.*

The natural starting point for evaluating a system of corridors and retail centers is to examine the kinds of data and analytical tools currently used to develop individual corridor revitalization strategies. These data and tools capture the variation in the social and economic landscape across corridors and thus serve as building blocks for system level analysis.

The factors affecting the performance of individual corridors – demand factors, cost factors, market structure, and external and environmental factors – were discussed in Section III. Ideally, one should assemble data that capture the dynamics affecting each of these components. Unfortunately, much of the available data do not fit neatly into only one of these categories.

The protocol for traditional individual corridor market analysis is to assemble data to capture the following: the history, physical, and environmental conditions of the corridor; an inventory and description of the businesses in the corridor, and the demographic characteristics and consumer spending patterns of prospective customers they serve. These data are then used to construct analytical tools, such as pull factor and leakage analyses, that guide strategies for revitalization.

The protocol for traditional individual corridor market analysis is to assemble data to capture the following: the history, physical, and environmental conditions of the corridor; an inventory and description of the businesses in the corridor; and the demographic characteristics and consumer spending patterns of prospective customers they serve.

The purpose of this section is to describe these data and analytical tools in the context of our four corridors and the trade areas they serve. We assemble data along the same dimensions used in traditional market analyses and show how these data help us examine the four key factors identified in Section III. These data highlight the tremendous variation that can exist across corridors and the different issues that arise when collecting and analyzing the data.

[13] Readers of a preliminary draft of this report objected to this characterization citing examples of inter-corridor strategies such as encouraging successful entrepreneurs from one corridor to open additional stores in another corridor. We understand that such strategies have been successful, but they are not counterexamples to our characterization. Such approaches involve the transplantation of best practice from one place to another – not the analysis of the overall impact of one corridor on another. It is the dearth of system-wide analysis of such impacts that concerns us and motivates this study.

In the Section IV.A., we discuss the problem of choosing geographic boundaries for the trade areas of individual corridors. Then in Section IV.B., we briefly describe the history and current composition of four Philadelphia corridors on which we focus in this report. In Section IV.C., we describe the available data on the numbers and characteristics of people who live, work, or travel near particular corridors. Section IV.D. focuses on the available data that describe business activity in particular corridors. Corridor-level data on physical and environmental conditions are described in Section IV.E. The final subsection discusses analytic methods that can be used to assess market conditions in individual corridors.

IV.A. THE FIRST STEP: DEFINING THE UNIT OF ANALYSIS

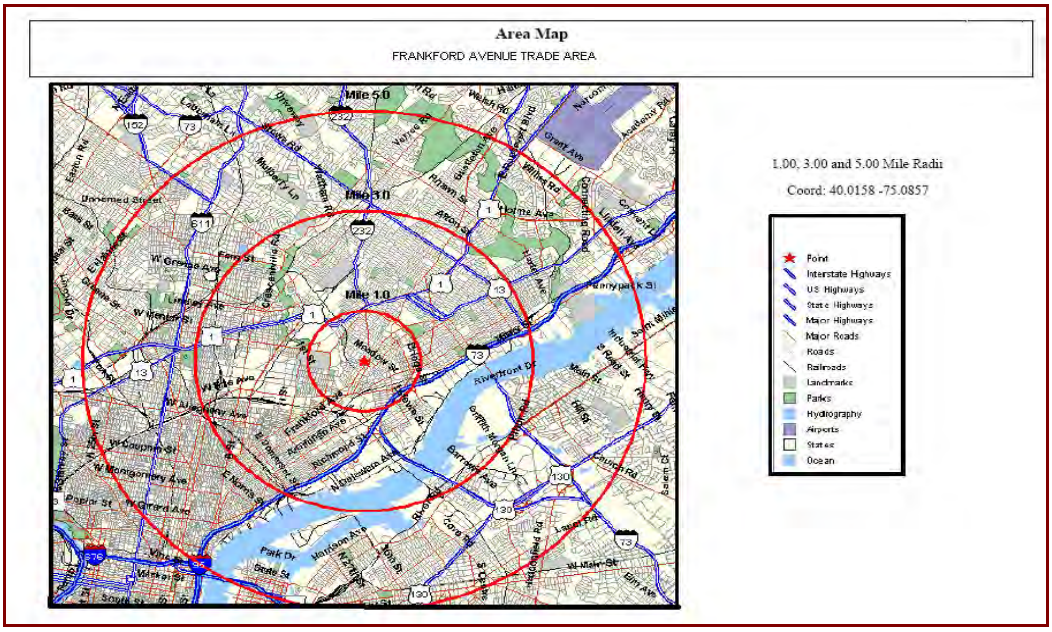
The first and most important issue that has to be addressed when collecting data is to properly define the unit of analysis, i.e., one must properly define the boundaries of the trade area served by the corridors. The measures of the demand, supply, competitive, and external factors that affect corridor performance all depend on how the market areas of retailing centers are defined.

The first and most important issue that has to be addressed when collecting data is to properly define the unit of analysis, i.e., one must properly define the boundaries of the trade area served by the corridors.

Ideally, a number of factors need to be considered when determining the appropriate boundaries of the trade area, such as natural physical boundaries, transportation and parking patterns, cultural and demographic factors, store typology and size, the type of goods sold, and the nature of competition in the surrounding area. Properly defining a trade area usually requires a significant amount of fieldwork and research, but such work is seldom done.

Instead, the traditional approach involves specifying a certain driving or physical distance from the center of the corridor. Most market analyses that we reviewed use a 5 to10 minute driving distance or a 1 to 5 mile radius around the center of a corridor as the measure of a retail trade area, but such definitions are problematic. Depending on the store mix and type of customers served, the trade area may be much broader than a 10-minute or 5-mile radius. Further, simple radial measures ignore natural barriers, as would even a 3-mile radial market area for the Frankford Avenue corridor as shown in the map below.

Most market analyses that we reviewed use a 5 to10 minute driving distance or a 1 to 5 mile radius around the center of a corridor as the measure of a retail trade area, but such definitions are problematic.



The three-mile radial blow-up of the Frankford trade area crosses the Delaware River into New Jersey, but typical shopping patterns in the Frankford corridor suggest that New Jersey should not be included in the trade area definition.

The three-mile radial blow-up of the Frankford trade area crosses the Delaware River into New Jersey, but typical shopping patterns in the Frankford corridor suggest that New Jersey should not be included in the trade area definition.

The PCPC does not take the typical approach to defining trade areas. Rather, the PCPC builds up the trade area for a particular corridor from Census tracts, including all tracts that they judge to be economically integrated with the corridor based on natural barriers and other considerations. For most of the data presented in this report, we have adopted the PCPC definitions of the market areas of particular corridors.

Trade area definitions can also be driven by data availability and intended uses. For example, marketers frequently make use of zip code level data to evaluate market conditions because a number of data sources are available at this level of geography, and it is also quite easy to implement a marketing campaign at the zip code level.

It is important to note that the geographic boundaries of the trade area of a particular commercial corridor may change over time. The factors that could cause such changes include changes in economic performance, product mix, and physical characteristics of the particular corridor, the same types of changes in nearby corridors, and regional changes in demographic characteristics, transportation patterns, and public policy. If one is to understand the workings of a system of corridors, one must be mindful that the components of that system, the individual corridors' market areas, may grow, shrink, or otherwise change shape.

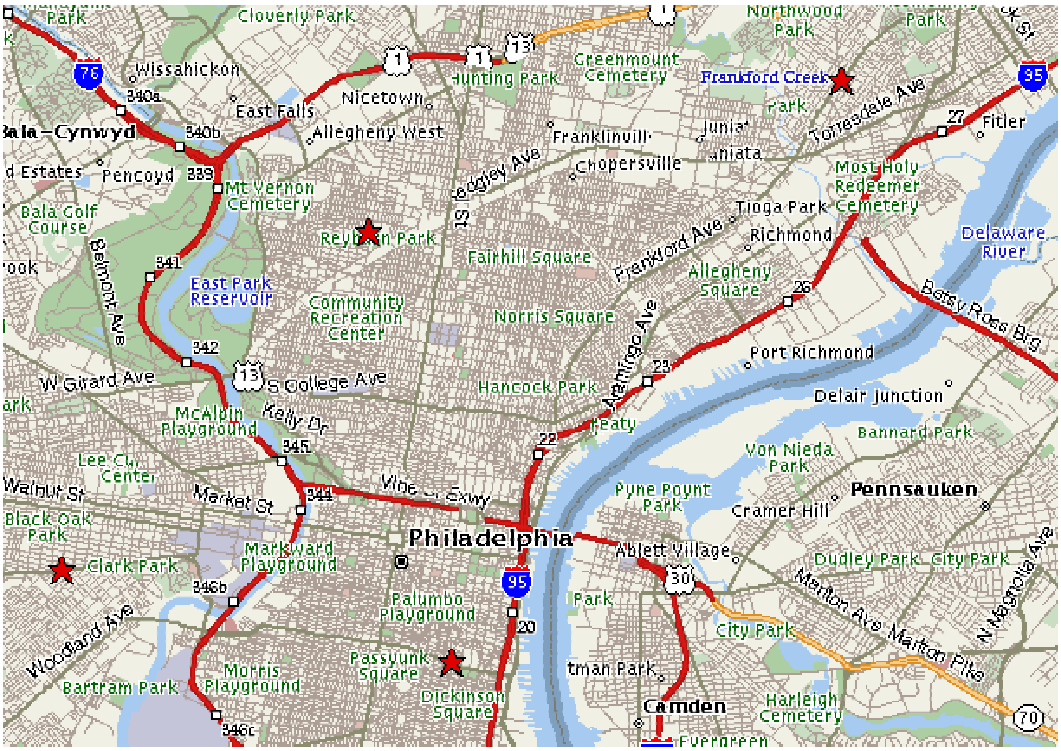
It is important to note that the geographic boundaries of the trade area of a particular commercial corridor may change over time.

IV.B. FOUR PHILADELPHIA CORRIDORS

The key focus of this study is to determine the feasibility of carrying out a citywide analysis of commercial corridors. Thus, we felt it was important at the outset to select a set of corridors to actually test our ideas in order to assure that our assessment of feasibility was based on reality. We selected four commercial corridors in Philadelphia to use as "laboratories" in which we could analyze opportunities to collect information. That is, we wanted to explore several ways in which one could learn about individual corridors. We also wanted to collect specific examples of the challenges that arise in real corridors.

We selected a set of corridors to reflect the geographic, demographic, and economic diversity of Philadelphia's corridors and to present us with a wide range of corridor policy questions. Our selections were drawn from PCPC's list of 258 retail centers,[14] our knowledge of the City of Philadelphia, and opinions that we gathered from many interviews with persons interested in and knowledgeable about Philadelphia's commercial corridors.[15] A map displaying the location of the four selected corridors is provided below.

We selected a set of corridors to reflect the geographic, demographic, and economic diversity of Philadelphia's corridors and to present us with a wide range of corridor policy questions.



[14] Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996

[15] An additional check was used to validate our selections. We used formal cluster analysis to segment the corridors. Cluster analysis is a statistical technique that is often used to sort objects into groups based on how similar they are. The present analysis made use of several variables (size and age of corridor, vacancy rate, and the availability of parking) to sort the corridors into common segments. The objective was to not select corridors from the same segments (clusters).

IV.B.1 Frankford Avenue/Margaret-Orthodox

In colonial days, Frankford Avenue was known as King's Highway. It was later known as the Frankford and Bristol Turnpike.[16] Today it is a 13-block strip of over 500 storefronts in the lower northeast section of Philadelphia.

Over 100 years ago, Frankford Avenue made a name for itself as the winter headquarters of a traveling circus, which attracted people from all over the region. The neighborhood was also home to its own orchestra, the Frankford Symphony. In 1921, Frankford Avenue was significantly changed with the development of the Market-Frankford El, which covered much of the avenue in perpetual shadow.[17] Part of the Avenue is about to feel the sun because of the rerouting of the El.

In 1921, Frankford Avenue was significantly changed with the development of the Market-Frankford El, which covered much of the avenue in perpetual shadow.

We have focused on the 4400 through 4900 blocks of Frankford Avenue and surrounding areas.[18] Seven SEPTA bus routes intersect the Market-Frankford El at the Margaret-Orthodox station. Unpublished data for 2000 provided by the PCPC indicate the presence of 241 total commercial units (occupied and vacant)

We have focused on the 4400 through 4900 blocks of Frankford Avenue and surrounding areas

[16] *Mermaids, Monasteries, Cherokees, and Custer: The Stories Behind Philadelphia Street Names*, pp. 93-94.
[17] Inquirer Magazine, 2000.
[18] The technical definition of the retail center employed by the PCPC includes the area along Frankford Avenue between Allengrove and Unity Streets and runs East to include both sides of Oxford and Leiper Streets, as well as both sides of Griscom and Paul Streets.

containing a total of 547,152 gross leasable square feet.[19] The reported vacancy rate was 33.6%, which is significantly lower than the 1995 vacancy rate of 43.3%.[20] In addition to being a major public transportation hub, the corridor is anchored by Frankford Hospital.[21]

IV.B.2. North 22nd Street/Hope Plaza

During the 1930's the North 22nd Street shopping district, called the "Swamp Poodle," was a major shopping and entertainment hub that was buoyed by its proximity to the famed Connie Mack Stadium and numerous large manufacturing plants.[22] At the time, the ownership was primarily comprised of Italian, Irish, and Jewish immigrants. The "Swamp Poodle" remained unchanged until the 1960's when numerous business owners retired and/or moved away. They were replaced by a predominately African American and Asian merchant mix that remains today.

During the 1930's the North 22nd Street shopping district, called the "Swamp Poodle," was a major shopping and entertainment hub that was buoyed by its proximity to the famed Connie Mack Stadium and numerous large manufacturing plants

Undated Photo Shibe Park / Connie Mack Stadium – 22nd & Lehigh

[19] The authors want to thank PCPC for sharing these data, which are part of its updating of *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996.
[20] Unpublished PCPC data and Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996, p. 24.
[21] Note that this corridor is adjacent to a much larger transportation hub, the newly reconstructed Frankford Terminal, which serves 50,000 public transportation riders daily on the Market-Frankford Elevated system and 14 bus routes.
[22] PCDC, North 22nd Street NCR Manual, FY '02.

Between Alleghany and Lehigh Avenues, North 22nd Street is a bustling area with considerable pedestrian and auto traffic.[23] The 33 SEPTA bus line runs on 22nd Street, and other lines cross at Alleghany (route 60) and Lehigh Avenues (route 54). Hope Plaza, at 22nd and Lehigh, contains a Thriftway grocery store, but the rest of the stores in the corridor are significantly smaller. The unpublished PCPC data for 2000 report 149 total commercial units containing a total of 230,976 gross leasable square feet. The reported vacancy rate was 16.8%, which is somewhat higher than the 1995 vacancy rate of 10.8%.[24] Several stores offer products and services intended to appeal specifically to African Americans.

Between Alleghany and Lehigh Avenues, North 22nd Street is a bustling area with considerable pedestrian and auto traffic.

IV.B.3. Baltimore Avenue from 48th Street to 56th Street

Official City records date the opening of Baltimore Avenue in 1872. However, there are numerous accounts that at least sections of the road may have been constructed as early as 1811. Presently, Baltimore Avenue is in the heart of the West Philadelphia Street Car Suburban Historic District, a designation that marks the transformation of the area from rural farmland into urban residential development, made possible by the streetcar, which provided easy access to Center City.

Source: Philadelphia City Archives

[23] The technical definition of the retail center employed by the PCPC includes the area along North 22nd Street between Allegheny and Lehigh Avenues. The corridor runs west to include both sides of 23rd Street and east to include both sides of 21st Street.
[24] Unpublished PCPC data and Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996, p. 14.

From 1850-1930, the area surrounding Baltimore Avenue evolved from an upper-class country retreat to a middle class, streetcar suburb. It was during this period that a number of (now) historic structures were built along the Avenue, including the Calvary Methodist Episcopal Church at 48th Street, and numerous Victorian Style and Colonial style residential units. Many of the structures that still stand today are included in the National Register of Historic Places. A number of other churches with historical significance are on the Avenue. For example, the present site of the Hickman Temple, an African American Methodist Episcopal Church located at 50th and Baltimore Avenue, built in 1901 is the former sanctuary of St. Paul's Presbyterian Church, a religious home of numerous wealthy and prominent Philadelphians including the Wanamaker and Campbell families. The residents of the neighborhood surrounding the corridor were predominantly Jewish up to the 1950s. During the 1950s, as the Jewish residents moved to the suburbs, the area became primarily African American. Today, Baltimore Avenue is a major auto thoroughfare and the route of SEPTA's Baltimore Avenue Trolley.

From 1850-1930, the area surrounding Baltimore Avenue evolved from an upper-class country retreat to a middle class street car-suburb.

We have focused on a portion of Baltimore Avenue that the PCPC treats as two retail centers – the 50th and 55th Street Corridors.[25] We chose to treat the two centers as one because they are contiguous and share many of the same economic and social characteristics. This portion of Baltimore Avenue intersects the route 46 and 52 SEPTA buses. According to the unpublished PCPC data, there are 173 total retail units in the two centers containing a total of 238,952 gross leasable square feet. The reported vacancy rate was 34.1%, which is only slightly lower than the 1995 vacancy rate of 35.6%.[26] We chose this corridor for our study largely because of its high vacancy rate and its apparent economic weakness relative to the much more vibrant corridors immediately to the east and to the west on Baltimore Avenue. The University City District is an active player in improvements on Baltimore Avenue, between 38th and 53rd Streets.

We have focused on a portion of Baltimore Avenue that the PCPC treats as two retail centers – the 50th and 55th Street Corridors.

IV.B.4. East Washington Avenue from 6th Street to 12th Street

The opening of Washington Avenue, named after George, was in 1770. With the immigration station located at Delaware and Washington Avenue, the area was a point of entry for many people that immigrated to the United States during the late 1800's and early 1900's. It is no surprise that Italians, Poles, and other ethnic immigrant groups settled along the riverfront and Washington Avenue. The staple of the commercial corridor, the Italian Market, has not changed much since their arrival. It began in the early 1900's with the Italians selling their wares outside of their homes along 9th Street. This open market

With the immigration station located at Delaware and Washington Avenue, the area was a point of entry for many people that immigrated to the United States during the late 1800's and early 1900's. It is no surprise that Italians, Poles, and other ethnic immigrant groups settled along the riverfront and Washington Avenue.

[25] The technical definition of the retail centers employed by the PCPC are as follows: the 50th Street corridor runs along Baltimore Avenue from 48th Street to the mid-5300 block plus north on 52nd Street, Catharine and South to Whitby Street, the 55th Street corridor runs from roughly the mid 5300 block to mid 5600 block along Baltimore Avenue.

[26] Unpublished PCPC data and Philadelphia City Planning Commission, *Philadelphia Shops Update: A Citywide Inventory of Retail Centers*, December 1996, p. 10.

concept has been expanded in recent years along Washington Avenue to include Vietnamese, Chinese, Koreans, and Cambodian vendors.

This corridor is contained within two separate PCPC retail centers – the Italian Market and the Hoa Binh Market.[27] Customers come to this corridor on foot, by car, and on a SEPTA bus line. This corridor is different from the other three corridors in several ways. First the corridor is relatively new, having grown up mostly since the mid-1990s. Second, the corridor appears to have started as an outgrowth of the Ninth Street (Italian Market) corridor that it bisects. Third, it is both architecturally and ethnically diverse. There are large stores, small stores, and street stands similar to those on Ninth Street. Many of the stores provide specialty food products to Asians throughout the region. The unpublished PCPC data for 2000 indicate 323 total retail units containing a total of 573,908 gross leasable square feet. The reported vacancy rate was 16.1%, up slightly from the 12.5% vacancy rate reported in 1995.[28]

This corridor is contained within two separate PCPC retail centers – the Italian Market and the Hoa Binh Market.

[27] The technical definition of the retail centers employed by the PCPC are as follows: the Hoa/Binh Market encompasses 5th – 7th Streets and Washington Avenue and runs north to include Passyunk Avenue; the Italian Market runs between 7th and 12th Streets along Washington Avenue and runs north on 9th Street to Catharine and South to Wharton.

[28] Unpublished PCPC data.

IV.B.5. Looking Ahead

In following sections of this report, we use the four corridors described above to illustrate preexisting data on individual corridors. We also discuss our use of the corridors as "laboratories" in which we could analyze opportunities to collect information.

IV.C. RESIDENTS, WORKERS, AND PASSERSBY

Demographic data are essential to any corridor analysis to size the market and capture the characteristics of current and prospective shoppers in the corridor.

Demographic data are essential to any corridor analysis to size the market and capture the characteristics of current and prospective shoppers in the corridor. It is often useful to collect data not only the residents in the trade area but also information on those who work in the area or pass through nearby transportation hubs (often called the "day time" population). In addition to tracking how many prospective customers are in the corridor, a proper analysis of the market takes account of the income that prospective shoppers have to spend. To better understand preferences it is also instructive to gauge the demographic characteristics of consumer prospects. Age, race, gender, and family characteristics of the residents of the trade area are viewed as important determinants of how they allocate their income.

Table 1 below displays characteristics of people residing, working, or passing through the four trade areas, compared to the City of Philadelphia as a whole. These data can be used to compare corridors or to develop a demographic profile for individual corridors as we show below the table.

Table 1. Summary Characteristics of Philadelphia County and Four Study Areas*						
		Philadelphia County	North 22nd Street*	Frankford Avenue*	Baltimore Avenue*	Washington Avenue*
Indicators of Market Size	2000 Population[29]	1,517,550	16,348	16,325	21,445	9,304
	2000 Employment[30]		4,650	5,546	6,466	4,472
	Average Daily Traffic[31]		5,536	11,523	11,644	NA
	Average Daily Public Transit Ridership[32]		2,223	8,200	5,700	975
Indicators of Income/ Wealth	2000 Median Income[33]	32,662	21,914	28,239	27,704	35,767
	Median House Value[34]	$59,700	$25,258	$46,900	$39,777	$72,686
Indicators of Preferences	% African-American[35]	40.70%	97.00%	40.90%	96.70%	16.00%
	% Homeownership[36]	59.30%	57.20%	53.50%	59.60%	56.30%
	Median Age[37]	34.2	33.8	30.2	34.4	38
	% Female[38]	53.50%	57.30%	52.80%	56.40%	52.80%

* Unless otherwise noted, we make use of the PCPC definition of trade area.

[29] These figures are based on 2000 Census data published by the US Bureau of the Census. For a discussion of these and other population data see Appendix A.
[30] These figures reflect the number of individuals who work in the trade area, not the number of residents of the trade area who are employed. The figures are based on the Journey to Work data published by the US Bureau of the Census. For a discussion of these and other employment data see Appendix B.
[31] Traffic count data from the Delaware Valley Regional Planning Commission is a viable indicator of the auto traffic that passes by a Corridor. These data are available online at www.dvrpc.org. The DVRPC does not collect data for every street/intersection in Philadelphia. For example, we were not able to obtain traffic counts for areas along or near the Washington Avenue corridor. Traffic count data were also not available for our Baltimore Avenue corridor, so we have used data on travel from 42nd – 39th Street as a proxy.
[32] These data, which are a matter of public record, were obtained from SEPTA free of charge. Data for Frankford Avenue reflect the number of daily passengers that pass through the turn styles at the Margaret Street Station of the EL. Data for Baltimore Avenue represent the daily trolley passengers that stop in the corridor. Average Daily ridership at North 22nd Street and Washington Avenue reflect bus passengers that stop in the respective corridors.
[33] These figures are based on 2000 Census data published by the US Bureau of the Census and an adjustment for inflation from 2000 to 2003. For a discussion of income data see Appendix C.
[34] These figures are based on 2000 Census data published by the US Bureau of the Census.
[35] Ibid.
[36] Ibid.
[37] Ibid.
[38] Ibid.

The **Frankford Avenue** trade area was the most racially mixed among the areas studied. Over 40 percent of the population is black and nearly 38 percent is white. It also has the most significant concentration of Hispanics, compared to the other corridors, over 12 percent. The trade area also boasts the largest concentration of people under the age of 25 and was second to the Washington Avenue trade area in terms of the concentration of 1-person households. The home ownership rate is the lowest among the corridors (just over 53%) and the median home value is more than $10,000 less than the county average.

The Frankford Avenue trade area was the most racially mixed among the areas studied.

The **Washington Avenue** trade area displayed the greatest wealth among the four areas studied. The median house value was $72,686, over $12,000 greater than the county average. With a median age of 38, the population in the trade area was also the oldest among the areas studied. While 16% of the population was at least 65 years of age, a majority of the population (52.1%) was between the age of 25 and 54. The Washington Avenue trade area had by far the largest concentration of 1-person households (over 42%). While predominately white, the area had the largest concentration of Asians among the four areas (13.9%).

The Washington Avenue trade area displayed the greatest wealth among the four areas studied.

The **North 22nd Street t**rade area displayed the lowest median house value ($25,258), less than half the county average. The area, which is predominately African America and female, displayed the second highest rate of homeownership (57.2%) among the four trade areas.

The North 22nd Street trade area displayed the lowest median house value ($25,258), less than half the county average.

The **Baltimore Avenue** trade area, also predominately an African American community, displayed the highest rate of homeownership among the four trade areas (59.6%), but the median house value was nearly $20,000 less than the county average. The Baltimore Avenue area also had the smallest concentration of 1-person households among the trade areas and had a population with a median age (34.4) that nearly matched the Philadelphia average (34.2).

The Baltimore Avenue trade area, also predominately an African American community, displayed the highest rate of homeownership among the four trade areas

In addition to understanding the characteristics of the resident population, there is also a need to consider the characteristics of the people who work in the trade area. Many marketers refer to the characteristics of the "day-time" population. Variables such as the number of workers and how they are distributed across different industries and occupations provide useful information for defining the optimal structure of retail in a particular corridor. These data have been particularly useful for performing cluster analyses – an increasingly popular tool used in the development of downtown revitalization strategies. Cluster analysis will be explained in detail later in this report.

We have examined how business establishments are distributed by employment size class for the North 22nd Street trade area. The data show that the corridor is heavily concentrated with many smaller retail and food service firms. However, the largest single employer is in the Management of Companies and Enterprises category. This employer (the TastyBaking Company boasts between 500-1,000 employees) represents a major anchor for the trade area. More detailed information is available in Appendix B.

We have examined how business establishments are distributed by employment size class for the North 22nd Street trade area. The data show that the corridor is heavily concentrated with many smaller retail and food service firms.

IV.D. BUSINESS IN THE CORRIDORS

This section focuses on measuring the potential demand facing a corridor, the number and mix of stores responding to that demand, vacancy rates of commercial real estate, parking availability, and labor availability.

IV.D.1. Measures of Potential Demand

Perhaps the most important component of market analysis is the attempt to understand the preferences of consumers in the trade area both in terms of where geographically they are spending their money and for what type of items. A common method of capturing the demand conditions in a particular area is to evaluate consumer expenditure patterns in the trade area. Consumer expenditure data are made available by the US Bureau of Labor Statistics and a variety of private vendors, the most well known being Claritas, Inc.[39]

We have obtained data from Claritas for the Frankford trade area, as defined by the 1-mile radial blow-up from the center of the retail corridor.[40] It is important to benchmark these data against another location – in this case we use the Philadelphia county average. In particular we calculated sales indices that reflect the average consumer expenditures in the Frankford trade area divided by the average expenditures of all Philadelphians for each retail category. An index greater than one implies that consumers from the trade area in question spend more for the particular category of stores than does the typical consumer in the county. The data indicate that consumers from the Frankford trade area spend considerably more compared to other Philadelphians on such items as boys, girls, and infant's apparel, as well as

[39] The BLS *Annual Consumer Expenditure Survey* data are available only at the national and Consolidated Metropolitan Statistical area levels. It is important to note that micro data from the survey are also available to the public and can therefore be used to model/estimate consumer expenditure patterns at a more detailed geographical level. This is effectively the approach taken by Claritas and other private vendors.

[40] These data were obtained from their consumer spending pattern reports product. The cost of this report on the Frankford trade area was $79. If one wanted to purchase data for all of Philadelphia's corridors, the cost per corridor would be much lower. In fact, one could purchase access to all of the Claritas data discussed in this report for approximately $4,500 per year.

smoking products and supplies and prepared foods. See Appendix E for more details.

IV.D.2. Number and Mix of Stores

It is also useful to know the total number and mix of retailers along a corridor. There are multiple sources for this information. The US Census Bureau's *Census of Retail Trade* serves as a useful place to start. While it is available down to the census tract level, it is only available every 5 years.

A more useful accounting of the retailers along a corridor is made available through a number of private vendors. Dun and Bradstreet, arguably the most well know supplier of business information, offers a listing of individual businesses and some of their characteristics, such as industry, sales volume, and the number of employees.[41]

A more useful accounting of the retailers along a corridor is made available through a number of private vendors.

As part of its retail inventory, the Philadelphia City Planning Commission also makes this information available. Unfortunately, these data are only released every 5 years as part of its *Philadelphia Shops Retail Inventory*.

In some cases a more timely inventory of retailers in a corridor can be obtained from a local CDC. For example, the Frankford CDC and the Allegheny West foundation (which serves the North 22nd Street Corridor), keep up-to-date inventories of the retailers in their corridors.[42]

An alternative source of sales information could be developed by the Revenue Department of the City of Philadelphia. Currently the Revenue Department collects and maintains a database measuring the revenues of businesses by industry. These data reflect the universe of businesses along a corridor that are compliant with the City's tax code. Data, however, are not available for individual businesses. They are only reported in blocks of 10 or more to protect the privacy of individual businesses. Additionally, these data have yet to be coded by physical location. Additional resources would be required to

An alternative source of sales information could be developed by the Revenue Department of the City of Philadelphia.

[41] Two points of caution regarding the Dun and Bradstreet data are worth noting. First, this may or may not reflect a complete universe of retailers in the corridor. The data reflect only businesses that obtain a DUNS number. Currently there are roughly 13 million US businesses included in their database. Second, this information can be fairly expensive. For example, the cost of purchasing industry, sales volume, and number of employees for 125 business establishments (roughly the size of the North 22nd Street Corridor) is $165. If one were to purchase a larger amount of data, the cost per establishment would be much lower. Dun and Bradstreet offered to sell us data on all 11,223 establishments in their Philadelphia database for $7,744 or 69 cents per establishment. A full description of data products and services offered by Dun and Bradstreet is available at www.dandb.com.

[42] The Frankford CDC provides a business directory, searchable by street and product category, online for free, at www.frankfordweb.com.

augment this dataset before it would be useful for the sort of analysis we envision.[43]

IV.D.3. Vacancy Rates

High vacancy rates indicate that retailers cannot operate profitably on the corridor, and further indicate that, for landlords, the costs associated with renting the property are such that the landlord cannot offer lower rents.

The vacancy rate in a corridor represents probably the best proxy for the extent to which costs of retailing exceed the potential retailing revenues in a given market. High vacancy rates indicate that retailers cannot operate profitably on the corridor, and further indicate that, for landlords, the costs associated with renting the property are such that the landlord cannot offer lower rents. High vacancy rates go hand in hand with disinvestment in commercial real estate.

Data for 1995 and 2003, the most recent inventory, are provided in Table 2.

Table 2. Commercial Vacancy Rates for Four Corridors*

Year	North 22nd Street	Baltimore Avenue	Washington Avenue	Frankford Avenue
2002	16.8%	34.1%	16.1%	33.6%
1995	10.8%	35.6%	12.5%	43.3%

*Source: Unpublished PCPC data and 1995 Philadelphia Shops report.

Among the four corridors, the North 22nd Street and Washington Avenue corridors posted the lowest vacancy rates during 2002, 16.8% and 16.1% respectively. However, both corridors experienced an increase in the vacancy rate from 1995. By contrast, the two corridors with the highest rates of vacancy witnessed improvement over the same period.

IV.D.4. Parking

A lack of adequate parking for customers can impose a significant cost on retailers in the corridor.

In addition to vacancy rates, consideration should also be given to the availability of parking. A lack of adequate parking for customers can impose a significant cost on retailers in the corridor. A particularly helpful measure of parking availability is also provided by the PCPC, published in their retail shops inventory. The PCPC tracks the amount of on and off street parking that is available to shoppers in the corridor. The important thing to measure is not the absolute number of parking spaces but the number of parking spaces relative to the amount of retail space. This metric is captured by the PCPC's parking index, which measures the amount of on and off street parking per 1,000 square feet of gross leasable area.

[43] The City Revenue Department estimates that developing and maintaining a database of this nature would require hiring either one full-time employee at approximately $45,000-$55,000 per year (plus fringe benefits), or two part-time students at approximately $30,000 per year assuming that the part-time students work full-time during the summer months.

The parking index for the four corridors, shown in Table 3, suggests that the Frankford Avenue corridor has the least amount of parking available relative to gross leasable area. The relatively low index (0.9) is indicative of the parking problem that has been well documented in previous market studies in the area.[44]

Table 3. Parking Index by Commercial Corridor*			
Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
1.7	1.3	1.6	0.9

*Source: PCPC unpublished data.

While retailing access by public transit is rarely considered by businesses, Philadelphia remains a city with relatively low household car ownership rates, relatively dense development patterns, and existing physical infrastructure that was developed prior to the dominance of the automobile. These factors make public transportation important in many markets in Philadelphia. In fact, the very qualities that make many commercial corridors unique and attractive – continuous storefronts with vibrant pedestrian traffic – are often at odds with extensive parking facilities.

IV.D.5. Labor Pool

Having an inadequate pool of labor can also impose a significant cost on retailers in the corridor.

Having an inadequate pool of labor can also impose a significant cost on retailers in the corridor. Typically one can get a feel for the relative scarcity of labor in the trade area by evaluating the unemployment rates in the area. The unemployment rates reflect the number of people actively seeking work as a percent of the total labor force and are made available for small geographic areas as part of the decennial census.

It is important to note that these data have shortcomings. In particular, they include only the number of people that are actively seeking work. People that have become discouraged and have given up their search for work are not included in the unemployment count. This "discouraged worker effect" can artificially underestimate the true unemployment problem and the true size of the pool of available workers, particularly in economically depressed neighborhoods.

Another useful measure, which is used less frequently than the unemployment rate but may represent a better measure of the availability of labor in a particular area, is the employment-to-population ratio. A low ratio suggests that there is a large volume of people available for work. As shown in Table 4 below, there clearly is a correlation between the two measures. Typically,

[44] See for example Caplan and Velez, 2003; Eckstut Consulting, 2003.

lower unemployment rates, such as those found in the Washington and Frankford Avenue trade areas, are coupled with relatively high employment-to-population ratios.

Higher unemployment rates and lower employment to population ratios, such as those experienced in the North 22nd Street trade area, indicate that there is an ample pool of labor available. Indeed previous market studies have suggested that the availability of labor is one of the area's greatest advantages.[45]

Table 4. Labor Surplus Indicators in the Four Study Areas*, 2000

	Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
Unemployment Rate	5.75%	8.29%	8.81%	6.12%
Employment-to-population ratio	65.68%	52.09%	49.11%	57.48%

*Source: US Census Bureau[46]
*Using PCPC trade area boundaries

IV.E. PHYSICAL AND ENVIRONMENTAL CONDITIONS

As noted in Section III.D, there are a number of external and environmental factors that influence the success of individual corridors. These factors include crime (Section IV.E.1.), land use and zoning regulations (Section IV.E.2.), the quality of physical infrastructure (Section IV.E.3.), and the history of the corridor (Section IV.E.4.)

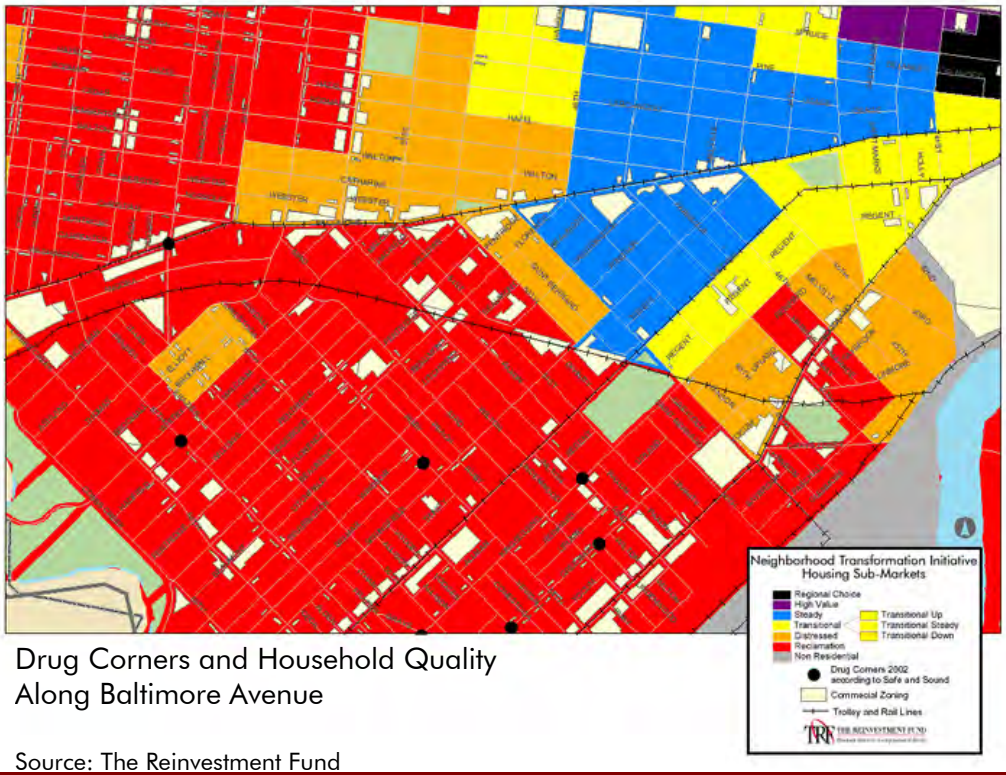
IV.E.1. Crime and Neighborhood Quality

Through our interviews with key players it was made clear that a clean and safe environment for shopping is paramount to the success of a corridor. Understanding where the trouble spots are in terms of violent crimes, theft, and drug trafficking provides useful information regarding where to target resources for security and policing. These data are released in a near real time fashion by the City's Police Department and were made available as part of the City's analysis for the Neighborhood Transformation Initiative (NTI). These

Through our interviews with key players it was made clear that a clean and safe environment for shopping is paramount to the success of a corridor.

[45] Allegheny West: The Plan for Development, 2000
[46] The unemployment rate and employment-to-population data were obtained free of charge, online from the US Census Bureau. As with many other Census products discussed in this report, there is a high level of geographic detail offered, but the data are only available every 10 years. The primary supplier of labor market information, the US Department of Labor, Bureau of Labor Statistics, offers these data more frequently, but they are not supplied at a level of geographic detail that is not useful for market analysis (only county or higher).

data are free; however, obtaining them requires special permission from the Mayor's Office of Information Services. Jeremy Nowak of TRF has supplied us with a map showing that there is an active drug corner near the heart of the Baltimore Avenue commercial corridor.



Drug Corners and Household Quality
Along Baltimore Avenue

Source: The Reinvestment Fund

In addition to crime data, another measure of the quality of a neighborhood is the strength of the housing market. A good gauge of the strength of the housing market was developed by TRF as part of their fork for NTI. In short, they used a number of indicators (e.g., housing tenure, vacancy rate, age of housing stock) to develop 6 different market types. These range from categories called "regional choice" and "high value/appreciating" which are clusters that have a strong housing market to categories such as "distressed" and "reclamation" which are consistent with poor housing market conditions. The map above shows that the area surrounding the Baltimore Avenue commercial corridor is predominately in the distressed or reclamation categories.

In addition to crime data, another measure of the quality of a neighborhood is the strength of the housing market.

It is important to note that NTI is not simply about the collection and display of crime statistics. Among other things, NTI represents a multifaceted effort to improve the data collection and analytical capabilities of the City. Over $2.9 million of the NTI bond funds will be spent over the next 5 years to improve IT infrastructure and synthesize data from multiple City agencies. These agencies very often have quite different methodologies for collecting, storing, and analyzing data. The challenge to NTI has been and will continue to be to unify these disparate systems that will enable a freer flow of information and

It is important to note that NTI is not simply about the collection and display of crime statistics. Among other things, NTI represents a multifaceted effort to improve the data collection and analytical capabilities of the City.

analysis. The first phase in this process, the unification of three separate parcel databases (City PCPC, Department of Records, and the BRT) is nearly complete. The second phase of this project, which will incorporate data from other departments (e.g., Department of Revenue and License and Inspection) are about to begin. Additional phases are currently in the planning stages.

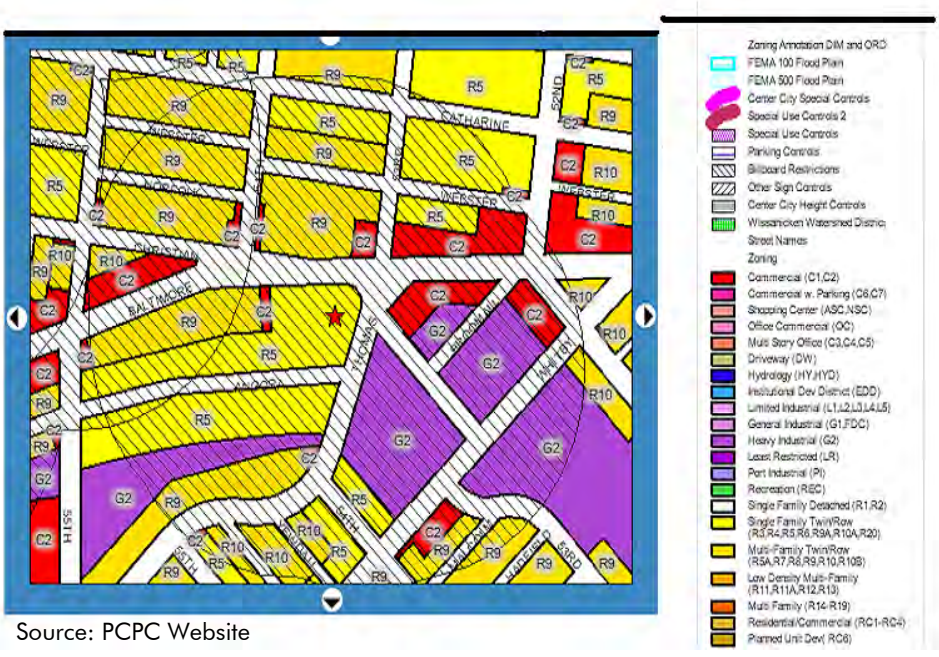
IV.E.2. Land Use and Zoning

In addition to crime, the overall success of a commercial corridor can be significantly affected by the patterns of land use and zoning restrictions. The PCPC provides the most comprehensive description of these patterns in and around commercial corridors. In addition to the variables mentioned earlier, the PCPC provides information on the geographic location, size, and use, as part of their Philadelphia Shops inventory. The PCPC inventory is made available every five years or so. Updating this information on a more routine basis would require significant resources.

In addition to crime, the overall success of a commercial corridor can be significantly affected by the patterns of land use and zoning restrictions.

The PCPC makes land use and zoning maps available for free on-line. An example of a map containing all of the zoning restrictions in the heart of the Baltimore Avenue corridor is provided below.

Zoning Map of Portion of Baltimore Avenue Corridor



Source: PCPC Website

The map shows a mix of commercial parcels and single and multifamily housing along Baltimore Avenue. The landscape is also shaped by heavy industrial zoning on the South side of Baltimore Avenue. Additionally, a significant portion of the displayed area has billboard and signage restrictions.

IV.E.3. Quality of Physical Infrastructure

The PCPC also provides information on the overall quality of the physical infrastructure in the corridor.

The PCPC also provides information on the overall quality of the physical infrastructure in the corridor. Through physical inspections, they provide the corridors with ratings of both public and private spaces, as well as the store mix in and around the corridor. Each item is rated on a four-point scale – ranging from excellent to poor. A composite score, which reflects the sum of the three individual ratings, is also calculated. The scores for the four study areas are provided in table 5.

Table 5. Infrastructure Quality Scores by Corridor, 2002

	Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
Public Space	1.5	3	2	3
Private Space	2	3	2	3
Store Mix	2.5	2.5	1	3
Composite Score	6	8.5	5	9
1995 Composite	8.5	10.5	6	7

For public and private spaces and store mix the possible scores are as follows:

1=excellent 2=good 3=fair 4=poor.

The composite scores should be read as follows:

3,4=excellent 5,6,7=good 8,9=fair 10,11,12=poor.

North 22nd Street received the best composite score among the four corridors, a modest improvement from the 1995 inventory. The composite score for Washington Avenue also got better since 1995 and was a close second to North 22nd Street. Frankford Avenue was the only corridor that displayed deterioration in its physical condition – the composite score moved from 7 in 1995 to 9 in 2002.

IV.E.4. Corridor History

It is quite difficult to understand the present or plan for the future without knowing the past. Numerous people with whom we met cited the need to consider the history of a corridor in any revitalization efforts. History provides us with some context regarding how things have changed.

It is particularly important to identify physical assets that have historical value. Various public funding sources are available for acquisition and improvement of historic buildings through, for example, the National Historic Trust. Preserving historical structures can often serve as the foundation for efforts to revitalize commercial corridors. Witness the resurrection of many historical structures in the Old City section of Philadelphia.[47]

It is particularly important to identify physical assets that have historical value.

We have already discussed the histories of our four selected corridors in Section IV.B. above.

IV.F. ANALYTICAL TOOLS USED FOR ASSESSING COMMERCIAL CORRIDORS

Most analytical tools used to assess market conditions attempt to capture different market outcomes such as the degree to which there is excess demand or supply for a particular good in the corridor or the degree to which dollars leak out of the corridor trade area. This type of analysis often forms the basis for developing a strategy for revitalizing a commercial corridor.

Pull factor analysis can be used to identify selected retail sectors that may be targeted for development. It is calculated by dividing per capita sales among businesses in the trade area by per capita sales in some benchmark location. Most often a pull factor below 1.0 indicates retail sector opportunity. This rule of thumb assumes that the low pull factor is due to trade area residents shopping outside of the area, which is not always the case. The low pull factor may simply reflect a lower demand in the trade area for a particular good. A pull factor greater than one indicates that the retailers are likely to be attracting customers from outside of the trade area, perhaps due to the creation of a niche in a particular retail category. It could, however, reflect above average demand conditions in the trade area for goods in the particular retail category.

Pull factor analysis can be used to identify selected retail sectors that may be targeted for development.

It is important to distinguish the pull factor from the spending index discussed earlier. While the spending index compares expenditures by *consumers* in the trade area to the expenditures by all consumers in the benchmark location, the pull factor compares sales among *businesses* in the trade area to sales among all businesses in the benchmark location.

Pull factors are often used as a starting point for carrying out leakage analysis. This involves comparing the actual sales among businesses in a trade area with an estimate of potential sales volume. There are a variety of methods for calculating potential sales. Pull factor and leakage analysis are discussed in more detail in Appendix F.

Pull factors are often used as a starting point for carrying out leakage analysis. This involves comparing the actual sales among businesses in a trade area with an estimate of potential sales volume.

[47] Old City is part of the "Main Street Program" – a national program devoted to revitalizing commercial "downtowns" with historic value. The PA Downtown Center is the Pennsylvania affiliate charged with administering Main Street Programs in the Commonwealth.

Cluster analysis offers some additional insights toward identifying the types of retail stores that should be attracted to the corridor. The essence of cluster analysis, as applied to this problem, is to identify industries that have some form of competitive advantage in the trade area and are likely to be poised for growth. It has become a fashionable instrument for downtown revitalization as it provides information regarding the preferences of individuals that are employed in the trade area (the day time population) and are likely to shop in the corridor. We discuss cluster analysis in more detail in Appendix G.

Cluster analysis offers some additional insights toward identifying the types of retail stores that should be attracted to the corridor.

V. NEED FOR ADDITIONAL DATA

In the previous section, we discussed the individual corridor data that are currently available. In this section, we discuss the need for new types of data and our exploratory efforts to collect such data.

In this section, we discuss the need for new types of data and our exploratory efforts to collect such data.

V.A. LIMITATIONS OF EXISTING DATA

To serve as examples throughout this section, we have collected and analyzed data for the four commercial corridors and the trade areas they serve. Most of the data for these four corridors, and for Philadelphia corridors in general, are either for a single point in time or for a very short time horizon. A great deal could be gained by analyzing these data as they change over time. Unfortunately, data over longer time periods are seldom available with the notable exception of census data, which is available for long time periods but only every ten years. There are a number of private vendors that provide estimated data for small geographic areas for the intercensal years. One of the primary suppliers of these and other marketing data is Claritas.[48]

Even after supplementing the available public data with the private estimated data, the analyst would like to know more about the businesses and shoppers in a particular corridor. More detailed data typically has to be collected using survey techniques.

V.B. COLLECTING NEW DATA

Surveys and focus groups of businesses, households, or pedestrians in and around a corridor are certainly not new. Indeed, one or all of the groups are typically interviewed as part of a thorough market analysis. As an example we have conducted a survey of businesses in three of the four study areas. We did not conduct a survey in the fourth study area, Frankford Avenue, as there were a number of surveys conducted by other groups in the recent past.

As an example we have conducted a survey of businesses in three of the four study areas.

[48] It should be noted that unlike the Census data, which are free of charge, there are fees for the Claritas data. For example, the Claritas Pop-Facts report, which provides summary demographic information for a chosen market area costs $59. If one wanted to purchase data for all of Philadelphia's corridors, the cost per corridor would be much lower. As noted in a footnote above, one could purchase access to all of the Claritas data discussed in this report for approximately $4,500 per year.
These data are often estimated using what the vendors call "proprietary statistical techniques" and may be subject to error. A listing of Claritas data products and a description of their methodology is available online at www.Claritas.com.

V.B.1. Our Survey

We made use of numerous market studies to develop the questions used in our survey. Our principal purpose in conducting the survey was to gain an understanding of the issues and difficulties in collecting such data.

Our approach to administering the survey was generally the same in each corridor. We sought and in most cases received permission from the local CDC to enter the corridor. Three graduate students, all with experience in primary research, were hired to administer the survey instrument. After reviewing the corridor to understand the geographic scope and most convenient times to get access to the business owners, the students administered the survey to a sample of businesses.

In general, the overall willingness to participate in our survey was moderate.

In general, the overall willingness to participate in our survey was moderate. Roughly half of the businesses that were approached ended up responding to the survey. Many respondents were skeptical regarding the scope and purpose of our survey. Some appeared threatened by our effort despite assurances that the scope of our study was strictly for test purposes. One respondent, for example, thought our effort would result in their business being required to move to a new location. Despite the concerns and skepticism, many respondents begrudgingly answered our questions. The particular findings are listed below:

- The survey of 81 businesses took approximately 70 person-hours to complete. The data collectors were paid $16 per hour, bringing the total cost of collection to $1,120 or roughly $14 per business.

- The survey results show that there were particular questions that respondents were more likely to answer than others. In particular, respondents were quite reluctant to answer questions regarding sales and square footage. For example, 68 percent of the respondents from the North 22nd Street corridor refused to respond to the question about sales volume. Many that did answer the question did so despite being uncomfortable.

- There was variation in the "hoops" that we needed to go through to gain acceptance in the corridor. The University City District asked that we have one of its employees escort us during the survey. Fortunately, one of our data collectors was also an intern with the UCD, making the data collection along the Baltimore Avenue corridor quite smooth and uneventful. The Allegheny West Foundation suggested that we simply go in cold to conduct the survey. While many respondents were skeptical of the scope of our survey, our response rates were generally good. There was really no lead organization for the Washington Avenue so we administered the survey without any introduction to the business owners.

The results of the survey are reported in Table 6 and described below.

Table 6. Business Survey Results by Corridor

	Baltimore Avenue	North 22nd Street	Washington Avenue
Number of Occupied Commercial Units[49]	114	125	278
Number of Businesses Surveyed	10	35	36
Length of business operation at present location (average years)	26	15.5	9.5
% respondents that live in neighborhood	71%	24%	52%
% respondents that own building	57%	48%	4%
Retail space used (median square feet)	1,600	871	3,250
Estimated Annual Sales			
(%< $50,000)	33%	50%	25%
(% $50,000-$250,000)	66%	50%	50%
(%>$250,000)	0%	0%	25%
% respondents that consider business to be profitable	57%	48%	80%
% customers from neighborhood	86%	73%	74%
% respondents that recently considered moving	0%	16%	32%

Baltimore Avenue - The Baltimore Avenue corridor was more of a neighborhood corridor, compared to North 22nd Street and Washington Avenue. Businesses have been at the present location the longest (26 years on average), a majority of the business operators own their building and live in the surrounding neighborhood. A majority of their customers (86%) come from the surrounding area. Most consider their businesses to be profitable and none have considered a recent move. Respondents indicated that the strength of the corridor was its high volume of traffic and a committed University City District.

The Baltimore Avenue corridor was more of a neighborhood corridor, compared to North 22nd Street and Washington Avenue.

Washington Avenue - The stretch of Washington Avenue on both sides of the Italian Market was by far the newest corridor studied. Businesses have been at the present location, on average less than 10 years. Businesses in this corridor also tended to command much greater space (over 3,250 square feet on average). About half of the business operators reside in the neighborhood, but a sizable majority rent their facilities. A majority of the businesses recorded annual sales in excess of $50,000 and over 80% consider themselves to be profitable. Yet over 30% of the

[49] Obtained from unpublished PCPC data.

respondents have recently considered a move to a new location. While many businesses have a niche serving ethnic populations from the surrounding community, businesses have cited space constraints as a major reason for considering a move. Many of the businesses along Washington Avenue did not view themselves as a distinct corridor. Rather, they view the numbered streets as the distinct corridors (e.g., 9th Street competes with 6th Street).

North 22nd Street - According to respondents, a majority of the North 22nd Street customers come from the surrounding neighborhood. Nearly half of the business operators own their own building, but very few actually live in the surrounding neighborhood. Businesses from this corridor have been at the present location, on average, about 15 years. They tend to be small, utilizing an average of 871 square feet and recording annual sales of less than $250,000. While nearly half consider their businesses to be profitable there were some (16%) that have recently considered a move to another location.

According to respondents, a majority of the North 22nd Street customers come from the surrounding neighborhood.

In addition we hoped to gain insight into the market conditions in each of the trade areas to get a "feel" for what the corridor was like. To that end, in addition to administering the survey, the data collectors were also asked to provide us with their general impression of the corridor and surrounding area, as well as provide an account of any specific issues that they encountered in collecting the data.

An example of this "on the street view" is provided below:

On the Street View of North 22nd Street

North 22nd Street between Allegheny and Lehigh Avenue has a healthy mix of commercial and residential properties. The sidewalks are active with residents as well as visiting consumers. An exterior examination reveals that the quality of housing on the corridor is poor compared to the commercial spaces. Observation and conversation with business owners revealed that the resident population was largely African American, poor and working class people. There was a mix of young and older persons on the corridor during the data collection period. There is public transportation that runs along and perpendicular to either end of the corridor. A number of street vendors can be found on the corridor selling various items such as socks, undergarments, CD's, DVD's, incense, oils, and books – the latter being sold outside one of the mosques.

At one end of the corridor is a large shopping center, which has ample parking and across the street there is a public school. In the middle of the corridor, a medium sized grocery store is found as well as a Citizens Bank branch. At the northern end we find a gas station and KFC.

Although a mix of small businesses can be found on the corridor, clothing and apparel stores dominate. The clothing stores are diverse, selling shoes, underwear, sports apparel, suits, and hats. They each cater to a specific clientele – women's shoes, men's casual wear, hip-hop fashions, etc.

Hair salons and barbershops are businesses on the block that have a long history in the area. Apparently, the first black owned business on the block was a hair salon that is still there 30 years later; the second was a barbershop right across the street from the salon. These two businesses had a sense of pride, resiliency and community that was displayed by many of the black owned businesses that have been on the block for some time. They were wary and alert to our presence; they probed our intentions and then answered our questions. Barbershops and hair salons are places where information is shared and debated no matter what the content. We had our turn in the chair and people took turns at clipping and lining up what they perceived our purpose to be.

East Asians run the hair care product stores on the corridor; they answered the questions with some persistence on our part and in three cases an African American who worked in the store would answer the questions for them. The merchants from these stores did not live in the neighborhood and indicated that their businesses were profitable. Other Asian owned businesses on the block consisted of take-out Chinese food, small corner stores, a sneaker store, and a beer store. These establishments were non-responsive or clearly avoided dealing with us all together.

Stores such as fresh fish markets, the butcher shops, drycleaners, and a seafood restaurant were busy with neighborhood residents and visiting customers from outside the area as well. The attraction powers of these businesses were noted as being vital to the corridor by a business owner/past president of the merchant's association. The people these businesses bring to the corridor end up being customers at many other businesses on the corridor.

There are not many sit down restaurants on the corridor other than a diner at the northern end and a small seafood restaurant whose main business is takeout. One bar was open during data collection. It did not seem any other nightclubs or evening activities would attract people to the corridor at night. We did not observe the corridor at night, so this is simply based on deductions from our daytime observation.

There are a number of professional, technical, service businesses on the corridor. The four that stand out are an audio/visual repair shop, optometrist/glasses store, printing press, and pharmacy. The printing press may close soon because there is no one to take over after the owner retires. He says the younger people are more concerned about selling their marijuana or playing games than learning about his business and how to run it. He has watched some of them grow up from babies and become caught up with

street life or go away to college and move away from the neighborhood. While interviewing the AV/electronics repair shop owner, we noticed a person outside that had collapsed. Persons at the nearby bus stop simply stared at him and didn't offer any assistance or pretended not to see him. The repair shop owner excused himself and went to the assistance of the man even though he had a store filled with customers.

The pharmacist and optometrist offer vital services to a population that has historically been underserved. Their involvement and success on the corridor will be a good indicator of future business and services coming to the corridor. The respective services they provide are not cheap but thus far they have been able to survive in an area whose residents are largely unemployed, working poor, and working class.

V.C. FROM INDIVIDUAL CORRIDORS TO SYSTEMS OF CORRIDORS

All of the discussion in this and the previous section has been based on data or analytic methods that can provide insight into the economic situation of individual commercial corridors. Individual corridor analysis is important for thinking about corridors one at a time, but that sort of thinking can easily go astray. In the next two sections we discuss the importance of understanding the economics of *systems of commercial corridors*.

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In the next two sections we discuss the importance of understanding the economics of systems of commercial corridors.

VI. DATA AND TOOLS FOR ASSESSING A SYSTEM OF CORRIDORS

In section IV we examined the data and analysis tools used to evaluate and develop revitalization plans for individual corridors. From an individual corridor perspective, these data and tools provide the information needed to prioritize investments in the corridor. There are, however, over 250 retail centers in the City of Philadelphia, some traditional commercial corridors and some modern retailing developments. As we discussed in Section III.C., these corridors and their surrounding neighborhoods are not self-contained mini-economies; rather, they have multiple interconnections through both retail and real estate markets such that positive changes in one corridor can have positive or negative impacts on other nearby corridors. Both the City and various quasi-public institutions make decisions to invest or to create incentives and disincentives that affect the overall health of retail activity and the distribution of activity across retail locations in and around the City. To date, most of these decisions have been guided only by studies of individual corridors, and there has been little effort to understand exactly how corridors fit together, that is to understand *systems of corridors*. The data and analysis tools we discussed in Sections IV and V, while suitable for individual corridor assessments, are not sufficient to develop a strategic framework in which to consider public and quasi-public investments that will affect multiple commercial corridors.

The data and analysis tools we discussed in Sections IV and V, while suitable for individual corridor assessments are not sufficient to develop a strategic framework in which to consider public and quasi-public investments that will affect multiple commercial corridors.

Whereas individual corridors are concerned primarily with the characteristics of their market area and leakages from their market area—taking the competitive landscape as a given, a City wide investment perspective should evaluate the effects of investments and policies on *changes* in corridor market areas and leakages. It is instructive to note that when multi-location stores like Home Depot or Target consider a new location, they evaluate not only the profitability of the proposed new store, but also the impacts on the profitabilities of their other stores. Just as a chain store needs to evaluate the impacts of new locations on current stores, cities need to consider the effects of investments in individual corridors on the City's system of corridors.

As an example, consider the case of the Baltimore Avenue trade area. As shown in Table 7, the PCPC data show that there are 6 other corridors (retail centers) that serve at least one of the Census tracts also served by our corridor along Baltimore Avenue (52nd and Chester, 58th and Baltimore, 46th and Baltimore, 52nd Street, 52nd Street South, and 56th and Cedar Streets).

Table 7. Competition in the Baltimore Avenue Trade Area

Commercial Corridor Name	PCPC Definition of Trade Area Served (Census Tracts)
48th – 56th and Baltimore Avenue	**72,73,78,80,81**
52nd and Chester Avenue	**73**,74
58th and Baltimore Avenue	65,**72**,**81**
46th and Baltimore Avenue	77,**78**,79
52nd Street	**80**,85,93
52nd Street South	**73**,**80**,85
56th and Cedar Streets	**81**

This analysis only considers physical location. It does not take into account the store mix in the corridors. Each of the corridors may have their own unique mix of stores and could therefore feasibly coexist as long as there is ample demand for their products and services. This analysis also fails to consider the relative proximity to big box retailers, category killers, regional malls, and other retailers that may target consumers from the Baltimore Avenue trade area.

The example above confirms the difficulty of analyzing interactions between commercial corridors. In the remainder of this section, we discuss the data and analytic methods that could be used to develop a better understanding of the workings of systems of corridors.

VI.A. DATA

To strategically assess alternative investments in commercial corridor revitalization, we need data that captures the interactions between commercial corridors and, in particular, information that sheds light on how consumers choose their retail venues. Chain stores regularly collect information on where their customers live through zip code requests by cashiers. Using these data, they have a profile of the patterns of travel to their stores from customers throughout the region. Strategic investment in commercial corridors requires similar, but more complex information. Because there are substantial differences in the nature of commercial corridors, it is important to understand the landscape of customer retail travel to different types of corridors. Just as the shopping travel patterns will be different for a CVS compared with a Walmart, households' travel to corridors to shop is likely to be different for a high-end regional shopping corridor compared with a neighborhood service-oriented corridor.

To strategically assess alternative investments in commercial corridor revitalization, we need data that captures the interactions between commercial corridors and, in particular, information that sheds light on how consumers choose their retail venues.

VI.A.1. Snapshot or Cross Section Data

The ideal data to use for a comprehensive commercial corridor investment assessment would be a large household survey of shopping choices. Such survey data would identify the set of retail locations patronized by each household for various classes of products. These data would allow the mapping of existing market areas for the set of retail outlets. Further these data would allow researchers to make statistical inferences regarding the effects of corridor characteristics on household choices among possible shopping locations. That is, researchers could gain understanding of which corridor characteristics attract shoppers and which repel shoppers.

The ideal data to use for a comprehensive commercial corridor investment assessment would be a large household survey of shopping choices.

Citywide household survey data can provide information that is typically not available from either business surveys or shopper intercept surveys. Surveys of businesses provide information about businesspersons' perceptions of their markets and of customer attitudes. Shopper intercept surveys provide information regarding the geographic boundaries of a corridor's market area as well as information on shoppers' perceptions of the corridor and competing

Citywide household survey data can provide information that is typically not available from either business surveys or shopper intercept surveys.

retail venues. Neither type of survey provides information on those households choosing not to shop on the corridor. Consequently, while the shopper intercept survey and business survey provide some insight into the market area of the corridor, it gives little information about the share of that market attained by the corridor or about why some shoppers go elsewhere.

The geographic coverage of surveys is important. A household survey of a specific neighborhood, for example, would yield information about the shares of expenditure by people in that neighborhood that are spent in that neighborhood's corridor and in other retail areas. It would not, however yield information on the shopping choices of those outside the neighborhood who might patronize the establishments in the neighborhood's commercial corridor. Expanding the geographic boundaries of household surveys allows a more complete understanding of retail shopping patterns and increases the ability to evaluate the determinants of the market shares of retail venues. A citywide household survey would capture the shopping patterns of all City residents, but would not capture those of suburban residents. In theory, this same information could be garnered through intercept surveys of shoppers in *all* retail centers because those choosing not to shop in a particular corridor would be picked up by surveys in a different site. A citywide shopper intercept survey would capture all households choosing to shop in City retail sites, but not those City and suburban residents who do not shop in the City.

Expanding the geographic boundaries of household surveys allows a more complete understanding of retail shopping patterns and increases the ability to evaluate the determinants of the market shares of retail venues.

Data on shoppers' preferences, incomes and shopping patterns are crucial to evaluating investments in corridors from a citywide perspective for several reasons. Such data can:

- Provide information on the total potential spending on retail in corridors;
- Enable researchers to map market areas of corridors and shopper travel;
- Allow the analysis of determinants of market shares of individual corridors;
- Shed light on the nature of competition among retail venues;
- Shed light on the nature of synergies among retailers and retail venues;
- Allow the evaluation of the potential impacts of alternative corridor investments;
- Provide a basis for the simulation and prediction of the consequences of public and quasi-public investments and developments in one area on other existing corridors;
- Help assess the impacts of new retail and other business investments on existing corridors;

- Help assess the impacts of public policy changes, including changes in transportation policy, on corridors, and,

- Provide information that can be used to maximize the health of the City's system of corridors, even if that means transitions to new uses for some retail corridors.

VI.A.2. Trend Data

Household, shopper intercept, and business surveys yield pictures of the retail patterns affecting corridors and their neighborhoods at a point in time. To understand future potentials, however, one also needs an understanding of where corridors and their neighborhoods have been, so one can make baseline projections into the future. To this end, the cross-section data discussed above should be linked to trend data specific to neighborhoods and corridors.

To understand future potentials, however, one also needs an understanding of where corridors and their neighborhoods have been, so one can make baseline projections into the future.

Fortunately, as we discussed in Section IV, there is considerable data on changes in neighborhood demographics, income, and real estate. For residential markets in the City of Philadelphia, the NTI has collected and analyzed a substantial amount of these data. The NTI has classified residential neighborhoods, in part based on past and likely future trends and the assumption that there will be no interventions to change those trends. These data on residential neighborhoods can be used to help evaluate the needs for and potentials of commercial corridors. In addition, the PCPC is working on the third survey of retail centers in the city, which will provide an observation window of over 15 years on each retail center.

VI.B. ANALYTIC TOOLS

The well-established tools for retail market analysis typically available to economic development specialists seeking to revitalize commercial corridors, taken by themselves, are barely sufficient to provide enough information for individual corridors to devise effective strategies. Those tools are clearly insufficient to guide corridor investment from a citywide or regional perspective. There are several reasons why the traditional tools do not fully meet the need either from the perspective of an individual corridor or from the perspective of revitalizing a system of traditional corridors and modern retail sites.

There are several reasons why the traditional tools do not fully meet the need either from the perspective of an individual corridor or from the perspective of revitalizing a system of traditional corridors and modern retail sites.

- Leakage studies describe only the current competitive snapshot but usually do not provide insight into the trends in corridor performance.

- Leakage studies are generally specific to centers or areas but do not provide information about the complex flows of retail dollars across the set of corridors and retail centers. Most corridors cannot carefully manage (and experiment with) tenant mix to achieve the highest volume of retail sales as single owner shopping centers do.

- Commonly used analysis tools do not provide insight regarding the determinants of the size of market areas or insight about how market areas change as investments or policies change. Unlike multi-location stores, smaller, single location stores have little information about the factors determining the extent of their market area or about the impacts of adjacent businesses on their own business.

- Some factors that are viewed as constraints by individual corridors may actually be choices for governments or foundations with citywide or region-wide perspectives. For example, a corridor may be constrained by citywide auto or public transit systems, but those systems can be changed by government as a component of a citywide development strategy.

These considerations suggest the need for specific tools such as:

- Simple forecasting tools that allow the projection of trends at the corridor level;

- Statistical models of the determinants of the spatial shopping choices of households that include the characteristics of corridors and their competitors, trends that are external to the corridor, the role of ongoing private investment in retailing, and the impacts of public and quasi-public investment and public policy regarding commercial corridors;

- Simulation models that use the forecasting tools and statistical relationships listed above to make data driven assessments of future performance of individual corridors;

- Simulation models that examine the total impact of investments and policies across all centers in the retailing system, and,

- Ongoing data collection efforts that allow forecasts to be evaluated and relationships updated.

As an example of forecasting tools, if time series data are available for a particular corridor for a particular outcome variable such as retail sales per square foot, one can specify simple individual forecasting models in which the outcome is related to corridor and neighborhood characteristics. Because the available time series data are likely to have short time horizons, sample size requirements are likely to limit the corridor and neighborhood characteristics to only one or two variables.

In many cases, the outcome variables of interest may be observed only infrequently, such as in census years or the survey years for the PCPC's Philadelphia Survey. In these cases, it may be necessary to create forecasting models that pool data across corridors of the same type. This type of model has the advantage of not requiring a long time series – the drawback is that the

structure of responses to changes in corridor and neighborhood characteristics must be assumed to be the same across corridor types. A model that links trend and cross section models is a good tool to explain existing relationships between measures of success and observable factors affecting demand, cost, competition and external or environmental factors. We discuss forecasting models in more detail in Appendix H.

There is one other class of model that is likely to be very important in this type of analysis – models of households' choices among retailing venues. They can be used to describe household shopping patterns as a function of household characteristics and corridor characteristics. Models of this type estimate the probability that a particular household chooses a particular retailing venue. Thus they would be very useful in evaluating the impacts of proposed investments on shopping patterns. We discuss choice models in more detail in Appendix H.

There is one other class of model that is likely to be very important in this type of analysis – models of households' choices among retailing venues.

Once models like those described above are estimated, they can be used as the basis for simulation models. It would be possible to use such models to project the likely impacts of changes in corridor-level, market-area level, or citywide strategies.

The analytical techniques that should be applied to evaluate the determinants of corridor performance and the likely returns to corridor investments are by no means new. Standard time series and multivariate statistical techniques can be used to develop corridor level forecasts as well as to identify and quantify the key factors affecting corridor performance. These techniques are not likely to be applied to corridor evaluation by those interested in the revitalization of individual corridors, however, because the cost is beyond the means of most corridors, the data are not generally available, and individual corridor advocates are not focused on the outcomes of the entire system. The results generated by such an analysis, however, would be extremely useful because they would provide insights into the determinants of the success of individual stores and corridors that heretofore have not been available.

The relationships identified with these analytic tools would form the basis for the strategic investment tool described in the following section. It is important to note, however, that there are important choices to be made with regard to which specific outcomes one is seeking to change through investments and policy choices. The choice of these outcome variables will depend on the goals of the corridor investor. Thus investor goals must guide the statistical modeling process and the development of a strategic investment framework.

The relationships identified with these analytic tools would form the basis for the strategic investment tool described in the following section.

VII. TOWARD A STRATEGIC INVESTMENT FRAMEWORK

Quasi-public and government agencies seek to allocate their scarce resources toward revitalization efforts to improve the City's commercial corridors. These public and quasi-public investments often serve as a catalyst for the private investment needed for positioning the corridor for long-run success. Thus, the decisions regarding where and how to invest are critical. To date, most of these decisions have been guided by rigorous studies of individual corridors, while little consideration has been given to evaluating a larger set, or the City's entire system, of corridors. The failure to consider the City's system of corridors in this context has provided the motivation for this study to develop a strategic framework for investment.

A strategic framework for investment in commercial corridors should have at least four key characteristics:

- It should reflect the goals and objectives of the investors;
- It should provide metrics to evaluate investment performance;
- It should be based on data and analytical models that adequately capture the forces affecting performance, and,
- It should distill research into tools that investors can use.

In this section we examine several issues related to the development of a strategic framework for the analysis of public and quasi-public investments in Philadelphia's commercial corridors. In the first subsection, we discuss the definition of strategic goals. In the next subsection we discuss the current state of retailing in Philadelphia. The third subsection is focused on complex models that could be used to predict the future of retailing in the City based on assumptions regarding possible interventions. In the final subsection, we outline our vision of simple rules of thumb that could guide the decisions of public and quasi-public investors.

In this section we examine several issues related to the development of a strategic framework for the analysis of public and quasi-public investments in Philadelphia's commercial corridors.

VII.A. DEFINING GOALS AND MEASURING OUTCOMES

It is significantly more complicated to develop a framework for public and quasi-public investment in corridors than for private sector investments, in part because the goals and objectives of public and quasi-public investors are broader and less well defined. While private sector investors usually focus largely, or exclusively, on profitability, public investors and quasi-public investors are likely to focus on issues such as economic viability, quality of life, and equity rather than financial return. Moreover, the goals of public investors may be more complex than those of associations representing corridors or neighborhoods because they are likely to be interested in a broader geographic area. In addition to being concerned with an individual corridor, a public or

While private sector investors usually focus largely, or exclusively, on profitability, public investors and quasi-public investors are likely to focus on issues such as economic viability, quality of life, and equity rather than financial return.

quasi-public investor concerned with the overall health of the corridor system and the associated neighborhoods should also consider the impacts of investment in a particular corridor on the entire system of corridors. For example, substantial investment in one corridor might have a devastating effect on a nearby corridor if its competitive position is dramatically weakened. While a private investor in the first corridor might not care about the negative spillover effect on the neighboring corridor, a public or quasi-public investor should certainly care.

As we identified in Section II, there are at least eight separate roles that corridors can play, ranging from narrowly defined roles such as improving the competitiveness of a corridor or improving retail opportunities for local residents to broader roles such as enhancing the attractiveness of the entire region. These roles suggest corresponding goals or objectives for investors. The goals, along with potential measures of their achievement are listed below:

- Increase the competitiveness of corridor businesses
  - Sales per square foot
  - Rental rates
  - Vacancy rates
  - Commercial property investment
  - Market share of corridor businesses
  - Market area of the corridor
- Improving retail opportunities for neighborhood residents
  - Convenient sources of goods and services – product mix
  - Reasonable prices relative to other sources
  - Low, time and transportation costs
- Provide goods and services to visitors from outside the neighborhood
  - Share of sales outside of the neighborhood market area
- Create a culture of opportunity and success
  - Provide employment opportunities
    - For residents
    - For non-residents
  - Entrepreneurs' opportunities
    - New businesses in commercial corridors
    - New businesses in support of corridor activity
- Enhance the overall attractiveness of their surrounding neighborhoods
  - Lower crime
  - Residential property value
  - Residential investment
  - Population growth
- Create a sense of community
  - Perceptions of the quality of the community

- Desire to move from the community
- Recognition of community by those outside of the community

- Expand the city economy
  - Share of region's retail jobs
  - Reduce citywide leakage to the outside retail centers

- Make the regional economy more competitive by increasing diversity of lifestyle and retail opportunities
  - Expand the number of "regional choice neighborhoods"[50]
  - Number of "unique" retail centers

The main bullets designate potential goals and objectives of investors while the sub-bullets are potential measurable outcomes that reflect performance with respect to each goal.

The first task in the creation of a strategic investment framework is to develop a weighting of potential goals. Which are the most important? Are all of the objectives consistent with one another? These questions can raise serious issues for the investors. In particular, improving the overall health of the corridor system may require a restructuring in which some commercial corridors evolve into alternative, non-retail uses. While it may appear cumbersome at first, if we are to objectively evaluate alternative investments, the investment framework must guide the investor in creating an explicit ranking of the importance of alternative goals.

The first task in the creation of a strategic investment framework is to develop a weighting of potential goals.

The complexity of the investment goals, as reflected in the weighting scheme, has important implications for the application of investment tools. Investments by parties who place a relatively high weight on the returns to a given corridor are likely to be easier to assess because it will be easier to project outcomes. Investments by parties who place relatively high weight on objectives related to the overall performance of the system of corridors in the city or region necessarily require more complex investment decision making tools. Unfortunately, such investors are likely to face greater uncertainty about their investment outcomes, but it is our view that public and quasi-public investors should usually be of this second type.

Ranking the importance of alternative objectives is only the first step. Goals and objectives must be connected to measurable outcomes. This link is crucial because one can only develop models of outcomes that are readily observed and one can only evaluate changes in such outcomes. Forecasts of investment performance will depend on these estimated relationships between observable measures of performance and key factors driving corridor performance as outlined in Section 3. Simulation of the impacts of alternative investments and policies as reflected in their impacts of corridor demand, costs, competition, and

Ranking the importance of alternative objectives is only the first step. Goals and objectives must be connected to measurable outcomes.

Simulation of the impacts of alternative investments and policies as reflected in their impacts of corridor demand, costs, competition, and other factors will yield our projections of investment impacts.

[50] The notion of "regional choice" neighborhoods is that of the NTI and is used to indicate neighborhoods that are attractive to a broad spectrum of residents in and out of the City because of their high quality.

other factors will yield our projections of investment impacts. Over time, one can monitor whether investments are accomplishing desired goals, as reflected by changes in their associated observable indicators.

VII.B. THE CURRENT STATE OF RETAILING IN PHILADELPHIA

Once goals, outcomes and measures of performance are established, we need to confront the reality of the retail market in Philadelphia and how commercial corridors currently fit in to that market. Two related levels of analysis are required.

First, from a macro perspective, the City has been adversely affected by a number of demographic and economic trends, but at the same we have seen considerable investment in modern retail centers. This apparent reduction in demand and simultaneous expansion of supply raises important questions about the viability of existing commercial corridors, so we need to consider the macro picture of City retailing.

Second, because investments and policy changes may have impacts on more than one corridor or neighborhood, it is crucial to consider the geography of retailing in Philadelphia. If we are going to base our decisions on total impact across individual markets and neighborhoods, we need to understand how the corridors and neighborhoods are interconnected.

VII.B.1. The Macro City Retailing Picture

Because the City of Philadelphia has seen declining population (Figure 1) and weak growth in real income (Figure 2), it is important to first address several citywide questions about the City's retail environment:

- How many square feet of retail can the City support with its current population and income?
- What is the magnitude of "leakage" to retailing venues outside the City and is it excessive?
- What is the magnitude of City retailing attraction of shoppers from outside the City and is it sufficient?
- In the aggregate, is retailing over or undersupplied in the City and the surrounding suburbs?

How many square feet of retail can the City support with its current population and income?

Figure 1
Philadelphia City Population, 1970-2000

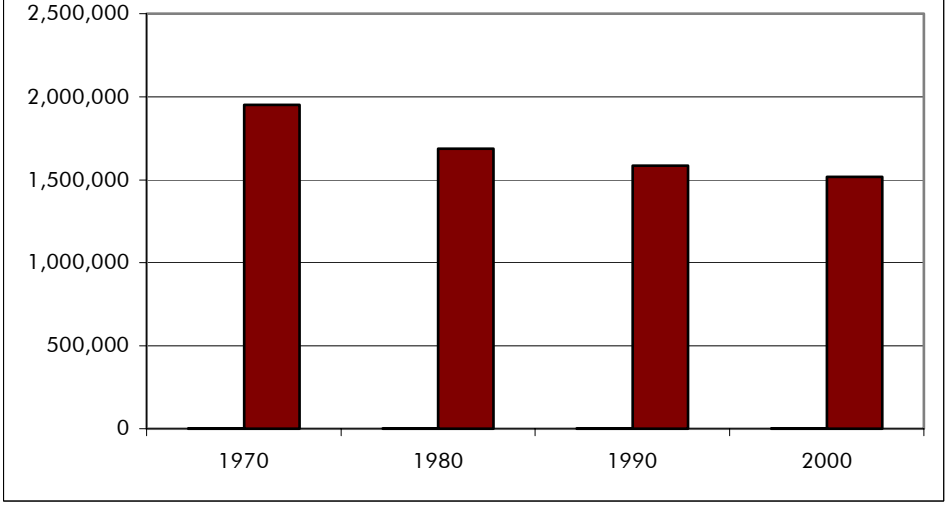
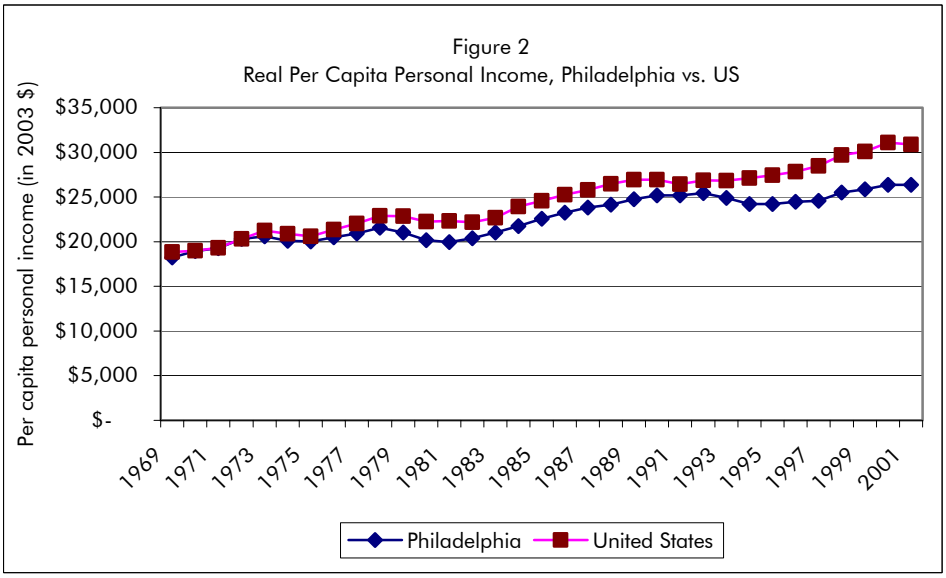


Figure 2
Real Per Capita Personal Income, Philadelphia vs. US



Answering these questions will help guide strategies for individual and multiple corridor investments.

A starting point for the first question – how many square feet of retail sales can the City support – is to apply simple rules of thumb that can be derived from typical retail purchasing patterns. These rules would provide an estimate of the number of square feet of retail space that would be expected based on Philadelphia's income distribution and the typical sales per square feet of retail space. These rules are only a starting point, however, because one would also want to consider whether urban consumers have the same retail patterns as the average American consumer and whether Philadelphia's competitive position in retailing would cause City retailing venues to perform better or worse than typical averages of sales per square foot.

A starting point for the first question – how many square feet of retail sales can the City support – is to apply simple rules of thumb that can be derived from typical retail purchasing patterns.

The second and third questions listed above are directly related to the City's competitive position in retail. If the City enjoys a competitive advantage, the rates at which City residents choose to shop outside the City, or leakage rate, should be relatively low. The City, ringed with major regional shopping malls just outside the City such as King of Prussia, Plymouth Meeting, Cherry Hill, Suburban Square, and City Line Avenue, faces strong competition from its suburban neighbors. City retailing, nevertheless, could be boosted by attracting shoppers from suburban areas, and indeed from outside the region. To the extent that the City can offer unique retailing opportunities, they can boost the retail sector, even in the presence of strong suburban competition.

With an understanding of the number of square feet of retail space that can be currently supported in the City, one can evaluate whether the City, on average is under or over supplied in the retail sector by comparing the number of square feet of space that can be supported with the actually number of square feet of retail space as documented in the PCPC's *Philadelphia Shops* analysis. Again this comparison is just a starting point, because one needs to consider two important issues. First, some of the existing retail space may, in fact be obsolete and not suitable or competitive in the retail market. Second, estimates of the amount of retail space that is supportable may need to be adjusted based on investments and policy changes that change the City's competitive position.

The degree to which one believes that the Philadelphia retail market is over or undersupplied will inform the micro analysis of corridor investment.

The degree to which one believes that the Philadelphia retail market is over or undersupplied will inform the micro analysis of corridor investment. If Philadelphia has more retail venues than can be supported by the local population – even accounting for any potential improvements in City population and income trends and improvements in the City's competitive position in the regional retail market place – then a significant part of the investment strategy should focus on the need to make transitions away from retail uses in some areas so as to consolidate and strengthen others. On the other hand, if Philadelphia has a shortage of retail venues, the investment and policy focus would be on developing existing markets into more vibrant, profitable retail centers. Of course the likelihood is that there are cases of both over and undersupply in different areas of the City.

Of course the likelihood is that there are cases of both over and undersupply in different areas of the City.

VII.B.2. The Micro Geography of Retailing in the City

Thus investment decisions must be based on a thorough understanding of the demand, cost, competition, and external factors affecting individual corridors. The starting point for analysis should be to map the factors driving the performance of commercial corridors.

While it is important to have an understanding of the macro picture of retailing in the City, all retail investments are local, and all policy choices will have local, corridor-level impacts. Thus investment decisions must be based on a thorough understanding of the demand, cost, competition, and external factors affecting individual corridors. The starting point for analysis should be to map the factors driving the performance of commercial corridors. This mapping will provide insight into the extent to which particular areas of the City are under or oversupplied in retail, the extent to which corridors are successfully competing in the neighborhood retail market place, and the extent to which corridors are competing in the regional retail marketplace.

Following our discussion of Section III, the base mapping should include:

- Demand Factors
  - Distribution of discretionary income
  - Mobility factors for urban consumers
    - Car ownership
    - Transit
- Cost and Supply Factors
  - Distribution of commercial corridors and retail establishments
    - Price
    - Quality
    - Type of retail business
    - Variety
- Competition and Measures of Performance
  - Mapping of shopping patterns:
    - Is there excessive travel
    - Scale of individual corridor market areas
    - Overlapping of corridor market areas
  - Retail supply relative to demand
    - Retail Vacancy
    - Retail sales per square foot
  - Property values
    - Commercial
    - Residential
- External and Environmental Factors and Trends
  - Changes in population
  - Changes in employment
  - Changes in neighborhood demographics
    - Age
    - Ethnicity

Application of standard Geographic Information System (GIS) tools to this mapping would allow potential investors to determine the size of a corridor's current market area, the number and characteristics of nearby corridors, and the competition from other retailing venues. The detailed mapping of Philadelphia retail space and factors affecting retail performance would be immediately useful in identifying gaps in the retail services in the City, which would prove to be useful in marketing for economic development. For example, the mapping tool could provide the investor with information about total income in a particular area, the number of hardware stores in a particular market area, or the fraction of people nearby who choose not to shop in a particular retail venue, all of which could be useful to evaluate the viability of alternative investments.

Application of standard Geographic Information System (GIS) tools to this mapping would allow potential investors to determine the size of a corridor's current market area, the number and characteristics of nearby corridors, and the competition from other retailing venues.

It should be noted that GIS mapping is a complex, data intensive effort than can be costly to implement. The usefulness of this type of mapping would further depend on continued updating. Using mapping information requires considerable GIS and market expertise. This type of mapping would generate key data for investment analysis but, by itself, would likely be too complex for investors to use directly.

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Once mapped, these data could be used to create meaningful typologies of corridors based on the nature of their markets and their neighborhoods. Within each of these typologies, one could evaluate the future potential of corridors by using our knowledge of the citywide market and our understanding (based on statistical models) of the forces likely to affect corridors, as well as the impact of proposed investments and policy changes on those forces.

VII.C. THE FUTURE GEOGRAPHY OF RETAILING: ANALYTIC MODELS AND SIMULATION

A successful corridor investment tool should be based on an understanding of the factors affecting corridor outcomes, an understanding of how these forces have been changing and are likely to change in the future, and how investments and policy changes can affect these driving forces in the future. One of the central analytic challenges in creating a corridor investment tool, therefore, is to create models that explain the key measures of corridor system performance. These models need to have three features:

One of the central analytic challenges in creating a corridor investment tool, therefore, is to create models that explain the key measures of corridor system performance.

- They need to be forward looking, that is, they need to reflect the current trends assuming no intervention;
- They need to capture the impacts of new investments on the target corridor or corridors, and,
- They need to capture the spillover impacts of investments on other corridors.

To the greatest extent possible, one would want to create simple models of outcomes that can be applied to each corridor. These models would explain the trends in each indicator as a function of corridor characteristics, trends in neighborhood demographic and economic variables, trends in other competing venues, trends in regional and national variables, and specific interventions and investments in the corridor or in competing corridors.[51] These models are likely to differ across corridor types. For example, a corridor specializing in serving a particular ethnic community (e.g., the Asian vendors along the Washington Avenue corridor) may exhibit different responses to changing market conditions than a neighborhood providing general neighborhood-oriented goods and services (e.g., the Baltimore Avenue corridor). Statistical models such as the one

To the greatest extent possible, one would want to create simple models of explaining outcomes that can be applied to each corridor.

[51] Note that the impacts of the trend variables and of the interventions may differ depending upon the characteristics of the corridor being examined.

described in Section V could be used to capture these differential effects across corridors and should also be capable of measuring the impacts of alternative corridor investments or public policies on the corridor receiving the investment and on other corridors. [52]

As noted in Section VI, one particularly important issue that will require special attention is determining the market areas of corridors. Market area is a key consideration in evaluating the interrelationships among corridors and between corridors and other types of retail investments. The question of market areas of corridors is likely to be best addressed by examining detailed shopping patterns of households using survey data. Creating models of households' choices of shopping venues for various categories of goods and services will allow one to better predict how households will react to new corridor investments, retail investments off the corridor, and public policy choices.

As noted in Section VI, one particularly important issue that will require special attention is determining the market areas of corridors.

With detailed household data, two types of choice models would be useful

- Models that explain choices among types of shopping venues
  - Neighborhood commercial corridors
  - Commercial corridors serving regional markets
  - Specialty commercial corridors
  - Modern neighborhood retail—e.g., CVS
  - Single owner strip shopping centers
  - Big box retailing
  - Regional malls

- Models that explain choices within a particular type of shopping venue
  - Choices among neighborhood corridors
  - Choices among corridors serving regional markets
  - Choices among entertainment oriented corridors
  - Choices among specialty corridors

Choice models have proven to be very useful in other contexts such as the choice among products or modes of transportation. Models of household choices among retailing venues will be particularly useful in evaluating the effects of investments both on the area receiving the investments and on competing areas. These models evaluate the effects of household characteristics such as income and car ownership, and the effects of corridor characteristics, such as retail mix and accessibility, on the shopping patterns of households. These models essentially will allow us to predict how the distribution of shopping patterns will change when new investments are made or when public policies are altered.

Models of household choices among retailing venues will be particularly useful in evaluating the effects of investments both on the area receiving the investments and on competing areas.

In addition to the statistical models explaining corridor performance and household shopping patterns, public and quasi-public investors need models

[52] Not all of the indicators described above are amenable to this type of statistical analysis, especially those measuring community identity impacts, overall City economy impacts, and overall regional economy impacts.

that capture the effects of corridors and corridor investments on the surrounding neighborhoods. For example, it is important to have an understanding of how improvements in commercial corridor competitiveness affect neighborhood property values. Similarly, we would like to know how corridor success is related to perceptions of neighborhood quality and safety, if such survey based perception data are available.

The data underlying the different types of statistical models can be mapped yielding a portrait of commercial corridors; the statistical models can be used to animate these maps to display trends and interactions among corridors. Combining these geographic representations with tables and charts, it will be possible to portray the likely effects of particular investments or policies on the entire system of corridors. For example, one could evaluate the change in shopping patterns resulting from the opening of a Home Depot or from the consolidation of two retail corridors into one. Such simulation exercises are likely to be too complex to be used for every investment, but for major public or quasi-public investments, they would be worth the effort to tailor the investments to improve their chances of success and to evaluate consequences of the investment on the City's corridors and neighborhoods. Simpler tools, which could be used to analyze most potential investments, are discussed in the next section.

The data underlying the different types of statistical models can be mapped yielding a portrait of commercial corridors; the statistical models can be used to animate these maps to display trends and

VII.D. CREATING SIMPLE STRATEGIC INVESTMENT TOOLS

The goal of the strategic investment tools should be to provide a simple set of rules of thumb that reflect the underlying data and relationships, and, that can be used to help guide investment choices. These rules of thumb should identify key ingredients for success (as defined by investor objectives) and provide indicators of likely investment outcomes. Such rules could be based on two typologies, one of corridors and one of interventions.[53]

The goal of the strategic investment tools should be to provide a simple set of rules of thumb that reflect the underlying data and relationships, and, that can be used to help guide investment choices.

As in the NTI, there is a need to classify corridors by their characteristics and potential. Such a classification could be based on the data and models we have

As in the NTI, there is a need to classify corridors by their characteristics and potential.

[53] The PCPC uses a typology of corridors that identifies six types:

1. Neighborhood Subcenter – 10,000-35,000 square feet of gross leasable area (GLA). Examples of stores in this category include grocery and convenience stores, pharmacies, dry cleaners and the like.
2. Neighborhood Center – 30,000-120,000 square feet of GLA and typically contain a supermarket and variety store.
3. Community Center – 100,000-500,000 square feet of GLA and typically contain a discount department store and category killers.
4. Regional Center – 300,000-900,000 square feet of GLA and typically have one or two full line department stores.
5. Superregional Center – 500,000+ square feet of GLA and typically contain three or more department stores or equivalent.
6. Specialty Center – Concentration of entertainment, restaurants, off-price goods, arts.

Our Frankford corridor is classified as type 3; North 22nd Street is type 2; the two parts of our Baltimore corridor are types 1 and 2; and the two parts of our Washington Avenue corridor are types 1(Hoa Binh Market) and 6 (Italian Market).

discussed in this report. These classifications of corridors should identify, at a minimum, each corridor's type and market viability.

In addition to a typology of corridors, we see a need to develop a typology of interventions. A classification of interventions might be based on whether the intervention is:

- Large or small
- Financial (e.g., money for new street lights) or regulatory (e.g., zoning changes)
- Focused on individual merchants or merchants' associations
- In one corridor, in several corridors, or citywide

In addition to a typology of corridors, we see a need to develop a typology of interventions.

Once the typologies of corridors and interventions are in hand, one could use the data and analytical tools discussed in this report to develop rules of thumb regarding the likely success or failure of different types of interventions in different types of corridors. These rules of thumb would help identify corridors that are likely to prosper without intervention and corridors whose retail success could be boosted by particular types of investments. These rules of thumb could also identify current corridors that should be considered for new non-retail uses based on their poor future market viability, their negative influence on neighborhood outcomes, or the negative consequences of competition with other corridors.

Once the typologies of corridors and interventions are in hand, one could use the data and analytical tools discussed in this report to develop rules of thumb regarding the likely success or failure of different types of interventions in different types of corridors.

If the typologies of corridors and interventions and the rules of thumb are to be useful, they must be tailored to reflect the goals of investors. Thus the appropriateness of interventions in particular corridors may depend on the relative weighting of the likely outcomes of the investor.

VIII. CONCLUSION AND NEXT STEPS

The purpose of this study was to explore the possibility of developing a strategic framework for public and quasi-public investment in revitalizing the city's commercial corridors based on analyses of systems of corridors. Our conclusion is that it would indeed be not only possible but also practical and desirable to develop both complex and simple tools that would provide a strategic framework for the evaluation of corridor investments and policies. The framework could be shaped by the considerations we have identified in the first six sections of this report.

Our conclusion is that it would indeed be not only possible but also practical and desirable to develop both complex and simple tools that would provide a strategic framework for the evaluation of corridor investments and policies.

The starting point, in our view, should be a thorough examination of the goals of public and quasi-public decision makers. Once the goals are clearly specified, they should be linked (as we discussed in Section III) via economic theory, to the decision variables such as investments or regulatory changes. But theoretical models alone will not be sufficient to guide decisions. Rather, the theory should guide the construction of statistical models based on real data. Once the statistical models are in hand, they can be used as the bases for simulation models that will predict the likely impacts of alternative interventions. Obtaining such predictions for major interventions will be a complex and difficult process that may require outside technical experts to assist many decision makers. For smaller interventions, decision makers need trustworthy rules of thumb that they can apply. Such rules can be developed, but deriving them will require complex analysis.

The starting point, in our view, should be a thorough examination of the goals of public and quasi-public decision makers.

The theory and statistical methods required are, for the most part, well understood. The difficult parts of the process will be collecting, organizing, and analyzing the necessary data. As we have shown in Section IV of this report, much of the required data are readily available from secondary research; some are freely available from government sources, and, some will have to be purchased from vendors. There are, however, significant gaps – household survey data must be filled by primary research before the analysis can be completed. Our own preliminary efforts at primary data collection in this study have convinced us that useful data can be collected, but the costs of doing so will be significant.

The theory and statistical methods required are, for the most part, well understood. The difficult parts of the process will be collecting, organizing, and analyzing the necessary data.

Finally, the data collection and analysis should not be viewed as a one-time event. As Philadelphia's corridors evolve in response to investments and other factors, new data will have to be collected to monitor the performance of corridors and to update the statistical models. It may be desirable for the data to be maintained under the auspices of one organization, perhaps the PCPC.

Our study has convinced us that data-driven system analyses and rules of thumb can help public and quasi-public investors make better decisions that will, in turn, enhance the performance of Philadelphia's commercial corridors.

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APPENDIX A. SOURCES OF CORRIDOR POPULATION DATA

The US Census Bureau (www.Census.gov) represents the best source of population data for small areas (e.g., census tract, block group).[54] Unfortunately, the Census Bureau data for small areas are published only every 10 years.

Population Data for Four Commercial Corridors

Census data for our four selected corridors are displayed in Appendix Table 1. That table reveals that three of the four corridor neighborhoods lost population at a rate that was more rapid than Philadelphia's overall loss in the 1990s. Population near the North 22nd Street corridor declined at more than 3 times Philadelphia's rate. One of our corridors, Frankford Avenue/Margaret-Orthodox, saw a modest increase in population over the decade.

Appendix Table 1. Population levels and change, Philadelphia County and Four Study Areas

	1990	2000	change (level)	change (%)
Philadelphia County	1,585,577	1,517,550	-68,027	-4.3%
North 22nd Street*	19,161	16,348	-2,813	-14.7%
Frankford Avenue*	15,686	16,325	639	4.1%
Baltimore Avenue*	24,179	21,445	-2,734	-11.3%
Washington Avenue*	10,087	9,304	-783	-7.8%

* Data reflect the trade area served by the corridor as defined by the Philadelphia City Planning Commission.

There are a number of private vendors that provide estimates of population levels for small geographic areas for the intercensal years. One of the primary suppliers of these and other marketing data is Claritas, Inc. It should be noted that unlike the Census data, which are free of charge, there are fees for the Claritas data. For example, the Claritas Pop-Facts report, which provides summary demographic information for a chosen market area costs $59. (If one wanted to purchase data for all of Philadelphia's corridors, the cost per corridor would be much lower. In fact, one could get access to all Claritas data discussed in this report for approximately $4,500 per year.) These data are often estimated using what the vendors call "proprietary statistical techniques" and may be subject to error. A listing of Claritas data products and a description of their methodology is available online at www.Claritas.com.

[54] Census Tracts are geographic areas designated by the US Census Bureau. There are 50,690 Census tracts in the United States, each containing anywhere from 2,500-8,000 residents. Block groups are subdivisions of a Census tract and are the lowest level of geography for which the Census tabulates sample data. Block groups generally contain between 300 and 1,500 people.

APPENDIX B: SOURCES OF CORRIDOR EMPLOYMENT DATA

The US Department of Labor, Bureau of Labor Statistics (www.bls.gov) and State's Department of Labor (e.g. www.dli.state.pa.us) are the principal sources of employment data.[55] Most of their data, however, are published for geographical areas (counties or larger areas) that are too broad for use in neighborhood level market analysis. The *County Business Patterns* publication, released annually by the US Census Bureau, represents the most useful source as it offers employment information down to the zip code level. However, these data are subject to a significant time lag. As of the writing of this report in the fall of 2003, data were only available through 2001.

Employment data are also made available through the journey to work series, published every 10 years by the US Census Bureau. While these data are produced very infrequently, the availability of data at the Census tract level offers an additional level of geographic granularity compared to the *County Business Patterns*.

Aggregate Employment Data for Four Commercial Corridors

Appendix Table 2 compares Journey to Work and County Business Pattern employment data for the four corridors for 2000. These data illustrate how sensitive an analysis can be to trade area definition. While employment levels using the zip code and census tract data are fairly close in the cases of North 22nd Street and Baltimore Avenue, they are substantially different for Frankford and Washington Avenue.

Appendix Table 2. Employment levels under alternative trade area definitions

	JTW-Census tract*	CBP-zip code
North 22nd Street	4,650	4,434
Frankford Avenue	5,546	17,494
Baltimore Avenue	6,466	5,167
Washington Avenue	4,472	8,389

Source: US Bureau of the Census
* Trade Area Defined by PCPC

It is important to note that private vendors like Claritas also make these data available. For example, Claritas *Business Facts* provides job counts for 1-mile, 3-mile, and 5-mile radii around a particular address at a cost of $125 per address. (As noted in Appendix A, all of the Claritas data discussed in this report could be purchased for approximately $4,500 per year.) These data, generated from the yellow pages and a number of other business directories, offer a view of the "day-time population" within the trade area.

[55] The focus here is on the number of individuals who work in the trade area, not the number of residents of the trade area who are employed

Industrial Employment Data for North 22nd Street Corridor

Appendix Table 3 provides a snapshot of how business establishments are distributed by employment size class for the North 22nd Street trade area. The data show that the corridor is heavily concentrated with many smaller retail and food service firms. However, the largest single employer is in the Management of Companies and Enterprises category. This employer (the TastyBaking Company boasts between 500-1,000 employees) represents a major anchor for the trade area.

Appendix Table 3. North 22nd Street Trade Area (Zip Code 19132)
Distribution of Establishments by Employee Size Class, 2001

Industry Code Description	Total Estabs	'01-04'	'05-09'	'10-19'	'20-49'	'50-99'	'100-249'	'250-499'	'500-999'	'1000 or more'
Total	264	154	40	35	18	7	7	2	1	0
Construction	12	4	3	1	2	1	1	0	0	0
Manufacturing	19	5	5	4	3	1	1	0	0	0
Wholesale trade	14	9	1	2	2	0	0	0	0	0
Retail trade	55	32	8	7	5	1	2	0	0	0
Transportation & warehousing	2	1	0	1	0	0	0	0	0	0
Information	2	2	0	0	0	0	0	0	0	0
Finance & insurance	9	4	3	2	0	0	0	0	0	0
Real estate & rental & leasing	8	5	0	2	1	0	0	0	0	0
Professional, scientific & technical services	4	4	0	0	0	0	0	0	0	0
Management of companies & enterprises	1	0	0	0	0	0	0	0	1	0
Admin, support, waste mgt, remediation services	7	2	1	1	0	0	1	2	0	0
Educational services	3	2	1	0	0	0	0	0	0	0
Health care and social assistance	31	19	5	4	2	1	0	0	0	0
Arts, entertainment & recreation	4	3	0	1	0	0	0	0	0	0
Accommodation & food services	47	38	3	2	2	0	2	0	0	0
Other services (except public administration	44	22	10	8	1	3	0	0	0	0
Unclassified establishments	2	2	0	0	0	0	0	0	0	0

Source: County Business Patterns Zip Code Level Information

APPENDIX C. SOURCES OF CORRIDOR INCOME DATA

The three most widely used measures of spending power are *average income* (per capita income), *income per square mile*, and *disposable income* in the trade area. Which is the best measure is a matter of opinion. The most widely used measure in market analysis is average income. While this offers a view of the spending power of the typical household in the trade area, it does not completely describe the volume of income circulating through a given trade area. For example, two trade areas may have the same per capita income, but very different numbers of residents so that one area would have much larger demand. Indeed, many argue that a more appropriate measure of spending power is income per square mile. A number of authorities on the subject, such as Harvard Business School Professor Michael Porter, contend that income per square mile (or per acre) serves as a better indicator of sales potential compared to other measures (such as average or median income).[56]

Another measure that is widely used in market analysis is *disposable income*. Commonly referred to as effective buying income, this reflects the level of income available to households, after taxes.[57]

Average income for small areas (such as census tracts) is made available from the US Census Bureau with the release of every decennial census. These data can be used to calculate disposable income and demand density. In addition, all three measures of spending power are made available by private vendors, such as Claritas on an annual basis.

[56] Porter (1998)

[57] It is interesting to note that there are financial instruments available in selected areas that work to encourage homeownership in localities that are "location efficient" or contain businesses and housing within close proximity to public transportation and other amenities. The objective of programs such as the location efficient mortgage, which offers flexible, low interest loans for home-buyers in location efficient areas is to increase disposable income through reduced travel. Details of this program, offered by the Institute for Location Efficiency can be found at www.locationefficiency.com.

Income Data for Four Commercial Corridors

Appendix Table 4 displays the 1990 and 2000 levels and change in median income, adjusted for inflation, for the four trade areas and Philadelphia County. The data show that all but the Washington Avenue trade area experienced a decline in real median household income between 1990 and 2000.

Appendix Table 4. Level and Change in Median Income*
Philadelphia County versus Four Study Areas**

	1990	2000	change (level)	change (%)
Philadelphia County	34,555	32,662	$ (1,893)	-5.5%
North 22nd Street	25,558	21,914	$ (3,644)	-14.3%
Frankford Avenue	31,453	28,239	$ (3,215)	-10.2%
Baltimore Avenue	33,254	27,704	$ (5,550)	-16.7%
Washington Avenue	24,928	35,767	$ 10,839	43.5%

Source: US Census Bureau
* Levels are in 2003 US dollars
**Using trade areas as defined by PCPC

APPENDIX D. SOURCES OF CORRIDOR DEMOGRAPHIC DATA

The US Bureau of the Census provides the most accurate and detailed demographic characteristics. As mentioned earlier, these data are only available every 10 years and can, therefore, become out-of-date quickly. During the intercensal years, many planners and retailers rely on private vendors such as Claritas to provide them with estimates of the demographic patterns of small areas. While these vendors rely on the Census for baseline information, they make use of supplementary information, such as postal delivery databases and independent surveys, to produce annual estimates of the demographic characteristics of small areas (e.g. block groups, census tracts). While the Census data are available online, free of charge, the Claritas demographic data for a trade area can range from $59 - $89 per trade area depending on the desired level of detail. (Again, as noted in Appendix A, all of the Claritas data discusses in this report could be purchased for approximately $4,500 per year.)

Demographic Characteristics for Four Corridor Trade Areas

The Census Bureau reports a variety of demographic data beyond the few concepts mentioned in the body of this report. A few other potentially interesting characteristics are displayed in Appendix Tables 5-7.

Appendix Table 5. Family Size Distribution of Households in Four Study Areas, 2000

	Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
1-person household	42.03%	26.32%	29.24%	30.74%
2-person household	30.76%	26.22%	26.06%	23.05%
3-person household	12.96%	18.93%	17.21%	16.33%
4-person household	7.39%	13.22%	13.27%	13.83%
5-person household	4.32%	7.95%	7.35%	8.21%
6-person household	1.64%	3.35%	3.28%	4.44%
7-or-more-person household	0.91%	4.01%	3.59%	3.41%

Appendix Table 6. Age Distribution by Study Area, 2000

AGE DISTRIBUTION	Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
17 and Under	15.7%	30.5%	31.0%	32.3%
18 to 24	8.0%	8.5%	9.1%	10.3%
25 to 34	20.4%	11.0%	11.4%	14.7%
35 to 44	18.3%	15.0%	15.6%	13.9%
45 to 54	13.4%	11.6%	10.3%	12.1%
55 to 64	8.2%	9.5%	8.5%	6.5%
65 and over	16.0%	13.9%	14.2%	10.2%

Appendix Table 7. Racial Distribution for Four Study Areas and Philadelphia, 2000

	Philadelphia	Washington Avenue	Baltimore Avenue	North 22nd Street	Frankford Avenue
White	42.40%	63.60%	1.20%	0.60%	37.70%
Black	40.70%	16.00%	96.70%	97.00%	40.90%
Hispanic	8.00%	4.80%	1.00%	1.30%	12.20%
American Indian, Eskimo, Aleut	0.30%	0.20%	0.20%	0.20%	0.30%
Asian	4.20%	13.90%	0.60%	0.40%	1.80%
Other	4.50%	1.50%	0.40%	0.50%	7.10%

Appendix E. Calculation of Sales Indices

Using data obtained from Claritas for the Frankford trade area, as defined by the 1-mile radial blow-up from the center of the retail corridor,[58] we calculated indices that reflect the average consumer expenditures by residents of the Frankford trade area divided by the average expenditures of all Philadelphians for each retail category. An index of greater than one implies that consumers from the trade area in question spend more for the particular category of stores relative to the typical consumer in the county as a whole. Appendix Table 8 depicts the per capita spending levels in the Frankford trade area and Philadelphia County for the retail categories that displayed the largest spending indices.

Appendix Table 8. Consumer Expenditures and Spending Index, Frankford Avenue vs. Philadelphia County

PRODUCT	Weekly Average Household: Frankford trade area	Weekly Average Household: Philadelphia	Spending Index
Boy's Apparel	4.33	3.44	1.26
Girl's Apparel	5.00	4.04	1.24
Smoking Products/Supplies	16.42	14.23	1.15
Infant's Apparel	2.40	2.08	1.15
Prepared Foods	11.87	10.68	1.11
Day Care	4.44	4.00	1.11
Dairy Products	10.62	9.57	1.11
Nonalcoholic beverages	10.97	9.99	1.10
Sugar and other Sweets	5.89	5.42	1.09
Fats and Oils	0.90	0.83	1.08
Cereal Products	5.57	5.16	1.08
Food at Home	93.42	86.83	1.08
Housekeeping Products	5.54	5.15	1.08
Bakery Products	10.69	9.97	1.07
Footwear	7.12	6.65	1.07

The data indicate that consumers from the Frankford trade area spend considerably more compared to other Philadelphians on such items as boys, girls, and infant's apparel, as well as smoking products and supplies and prepared foods.

[58] These data were obtained from their Consumer Spending Pattern Reports Product. The cost of this report was $79. (Again, as noted in Appendix A, all of the Claritas data discusses in this report could be purchased for approximately $4,500 per year.)

APPENDIX F. PULL FACTOR ANALYSIS

Pull factor analysis can be used to identify selected retail sectors that may be targeted for development. It is calculated by dividing per capita sales among businesses in the trade area by per capita sales in some benchmark location.

Most often a pull factor below 1.0 indicates retail sector opportunity. This rule of thumb assumes that the low pull factor is due to trade area residents shopping outside of the area, which is not always the case. The low pull factor may simply reflect a lower demand in the trade area for a particular good. A pull factor greater than one indicates that the retailers are likely to be attracting customers from outside of the trade area, perhaps due to the creation of a niche in a particular retail category. It could, however, reflect above average demand conditions in the trade area for goods in the particular retail category.

Pull factors are often used as a starting point for carrying out leakage analysis. This involves comparing the actual sales among businesses in a trade area with an estimate of potential sales volume. There are a variety of methods for calculating potential sales. Some researchers have simply compared the average sales among businesses in the trade area for each retail category to average sales in the benchmark location, which is effectively what the pull factor does. This method implicitly assumes that the resources available for spending are the same for the two locations. As a result there can be significant over/underestimates of the amount of leakage. An alternative method is to control for income differences through the following formula:

Potential Sales = (Population of A)*(Income Ratio of A)*(Regional Per Capita Consumption of Good R)

The income ratio of A represents the average income in the trade area divided by the average income of the benchmark location. The regional per capita consumption of good R reflects the consumption of a particular good for the average household in the benchmark location.

We have calculated the lost sales by retail category for the Frankford trade area (see Appendix Table 9). The benchmark location used for these computations is the Philadelphia County average. The sales data were drawn from the Claritas *Business Facts Report*.[59] The data show that over $93 million in sales were lost to businesses outside the Frankford trade area over the last year. The detailed figures by industry are shown in the table below. Among the detailed retail categories, the greatest losses were observed in the eating-places (-$26.3 million), gas service stations (-$24.6 million), miscellaneous retail (-$15.9 million), and food store (-$8.8 million) categories. There were also a number of categories that posted actual sales that were greater than potential sales. The used car dealer; paint, glass, and wall paper; home furnishing; and floor covering categories were successful in attracting dollars from customers outside the corridor.

[59] The cost of the report was $125. (Again, as noted in Appendix A, all of the Claritas data discussed in this report could be purchased for approximately $4,500 per year.)

Appendix Table 9. Retail Sales Indicators, Philadelphia versus the Frankford Trade Area							
	Philadelphia County		Frankford Trade Area				
	Sales (In Millions)	Sales Per Capita	Sales (In Millions)	Sales Per Capita	Pull Factor	Potential sales (In Millions)	Loss (In Millions)
All Retailing	$ 14,302	$9,587	$ 279	$ 6,245	0.65	$ 370	$ 91
Building Materials, Garden Supply and Mobile Homes	$ 820	$ 550	$ 23	$ 513	0.93	$ 21	$ (2)
Lumber and Other Building Materials	$ 528	$ 354	$ 14	$ 316	0.89	$ 14	$ (0)
Paint, Glass and Wallpaper	$ 71	$ 47	$ 6	$ 125	2.65	$ 2	$ (4)
Hardware Stores	$ 192	$ 128	$ 1	$ 16	0.12	$ 5	$ 4
Retail Nurseries and garden	$ 30	$ 20	$ 3	$ 56	2.79	$ 1	$ (2)
General Merchandise Stores	$ 1,006	$ 674	$ 21	$ 470	0.70	$ 26	$ 5
Department Stores	$ 924	$ 619	$ 20	$ 437	0.71	$ 24	$ 4
Food Stores	$ 3,130	$2,098	$ 72	$ 1,617	0.77	$ 81	$ 9
Grocery Stores	$ 2,355	$1,578	$ 60	$ 1,352	0.86	$ 61	$ 1
Meat and Fish Markets	$ 128	$ 85	$ 2	$ 54	0.63	$ 3	$ 1
Fruit and Vegetable Markets	$ 101	$ 68	$ 4	$ 85	1.26	$ 3	$ (1)
Candy, Nuts and Confection Stores	$ 11	$ 7	$ -	$ -	0.00	$ 0	$ 0
Dairy Product Stores	$ 10	$ 6	$ -	$ -	0.00	$ 0	$ 0
retail Bakeries	$ 42	$ 28	$ -	$ -	0.00	$ 1	$ 1
Miscellaneous Food Stores	$ 486	$ 325	$ 6	$ 125	0.39	$ 13	$ 7
Automobile Dealers and gas Service Stations	$ 3,311	$2,219	$ 62	$ 1,397	0.63	$ 86	$ 23
New and Used Car Dealers	$ 1,598	$1,071	$ 23	$ 506	0.47	$ 41	$ 19
Used Car Dealers	$ 144	$ 96	$ 24	$ 528	5.49	$ 4	$ (20)
Auto and Home Supply Stores	$ 437	$ 293	$ 12	$ 273	0.93	$ 11	$ (1)
Gasoline Service Stations	$ 1,106	$ 742	$ 4	$ 90	0.12	$ 29	$ 25
Boat Dealers	$ 9	$ 6	$ -	$ -	0.00	$ 0	$ 0
Recreational vehicle Dealer	$ 6	$ 4	$ -	$ -	0.00	$ 0	$ 0
Motorcycle Dealers	$ 8	$ 6	$ -	$ -	0.00	$ 0	$ 0
Automotive Dealers, NEC	$ 1	$ 1	$ -	$ -	0.00	$ 0	$ 0

Appendix Table 9. Retail Sales Indicators, Philadelphia versus the Frankford Trade Area (continued)							
	Philadelphia County		Frankford Trade Area				
	Sales (In Millions)	Sales Per Capita	Sales (In Millions)	Sales Per Capita	Pull Factor	Potential sales (In Millions)	Loss (In Millions)
Apparel and Accessory Stores	$ 604	$ 405	$ 7	$ 163	0.40	$ 16	$ 8
Men's and Boys Clothing Stores	$ 101	$ 68	$ 2	$ 40	0.60	$ 3	$ 1
Women's Clothing Stores	$ 171	$ 114	$ 1	$ 11	0.10	$ 4	$ 4
Women's Accessory and Specialty Stores	$ 13	$ 9	$ 1	$ 11	1.30	$ 0	$ (0)
Children's and Infants Wear	$ 26	$ 18	$ 1	$ 31	1.78	$ 1	$ (1)
Family Clothing Stores	$ 53	$ 36	$ 0	$ 7	0.19	$ 1	$ 1
Shoe Stores	$ 154	$ 103	$ 2	$ 38	0.37	$ 4	$ 2
Miscellaneous Apparel and Accessory Stores	$ 86	$ 58	$ 1	$ 25	0.43	$ 2	$ 1
Home Furniture, Furnishings and Equipment	$ 1,021	$ 684	$ 24	$ 528	0.77	$ 26	$ 3
Home Furniture and Furnishing	$ 395	$ 265	$ 13	$ 300	1.13	$ 10	$ (3)
Furniture and Kitchen Design Stores	$ 208	$ 140	$ 6	$ 134	0.96	$ 5	$ (1)
Floor Covering Stores	$ 105	$ 70	$ 5	$ 116	1.65	$ 3	$ (2)
Miscellaneous Home Furnishing Stores	$ 76	$ 51	$ 2	$ 49	0.97	$ 2	$ (0)
Household Appliance Stores	$ 38	$ 25	$ 2	$ 36	1.41	$ 1	$ (1)
Radio, TV and Computer Store	$ 588	$ 394	$ 9	$ 193	0.49	$ 15	$ 7
Radio, TV, Electronic Stores	$ 73	$ 49	$ 1	$ 18	0.36	$ 2	$ 1
Computer Hardware and Software Stores	$ 384	$ 258	$ 5	$ 110	0.43	$ 10	$ 5
Music, Video CD's and Tape Stores	$ 101	$ 67	$ 2	$ 40	0.60	$ 3	$ 1
Eating and Drinking Places	$ 2,413	$1,617	$ 34	$ 755	0.47	$ 62	$ 29
Eating Places	$ 2,244	$1,504	$ 32	$ 712	0.47	$ 58	$ 26
Drinking Places	$ 169	$ 113	$ 2	$ 43	0.38	$ 4	$ 2
Miscellaneous Retail	$ 1,998	$1,339	$ 36	$ 802	0.60	$ 52	$ 16
Drug Stores and Proprietary	$ 538	$ 361	$ 11	$ 253	0.70	$ 14	$ 3
Liquor Stores	$ 32	$ 22	$ 1	$ 16	0.72	$ 1	$ 0

Appendix Table 9. Retail Sales Indicators, Philadelphia versus the Frankford Trade Area (continued)							
	Philadelphia County		Frankford Trade Area				
	Sales (In Millions)	Sales Per Capita	Sales (In Millions)	Sales Per Capita	Pull Factor	Potential sales (In Millions)	Loss (In Millions)
Used Merchandise Stores	$ 71	$ 48	$ 4	$ 81	1.69	$ 2	$ (2)
Antique Stores	$ 14	$ 10	$ 0	$ 2	0.23	$ 0	$ 0
Miscellaneous Shopping Goods Stores	$ 396	$ 265	$ 6	$ 125	0.47	$ 10	$ 5
Sporting Goods, Bicycle and Gun Stores	$ 51	$ 34	$ 1	$ 13	0.39	$ 1	$ 1
Book Stores	$ 32	$ 22	$ 1	$ 13	0.62	$ 1	$ 0
Stationary Stores	$ 65	$ 44	$ -	$ -	0.00	$ 2	$ 2
Jewelry Stores	$ 84	$ 56	$ 1	$ 20	0.36	$ 2	$ 1
Hobby, Toy, and game Shops	$ 44	$ 29	$ 1	$ 22	0.77	$ 1	$ 0
Camera and Photography Supply Stores	$ 33	$ 22	$ 0	$ 4	0.20	$ 1	$ 1
Gift, Novelty and Souvenir Shops	$ 72	$ 49	$ 2	$ 51	1.06	$ 2	$ (0)
Luggage and Leather Goods Stores	$ 2	$ 1	$ -	$ -	0.00	$ 0	$ 0
Sewing, Needlework and Craft Stores	$ 14	$ 9	$ -	$ -	0.00	$ 0	$ 0
NonStore Retailers	$ 280	$ 188	$ 5	$ 107	0.57	$ 7	$ 2
Catalog and Mail Order Houses	$ 106	$ 71	$ 2	$ 54	0.75	$ 3	$ 0
Fuel and Ice Dealers	$ 3	$ 2	$ -	$ -	0.00	$ 0	$ 0
Retail Stores, NEC	$ 678	$ 454	$ 10	$ 219	0.48	$ 18	$ 8
Florists	$ 43	$ 29	$ 2	$ 45	1.57	$ 1	$ (1)
Tobacco Stores and Stands	$ 14	$ 9	$ 0	$ 2	0.24	$ 0	$ 0
New Dealers and Newsstands	$ 7	$ 5	$ 0	$ 2	0.45	$ 0	$ 0
Optical Goods Stores	$ 43	$ 29	$ 1	$ 20	0.69	$ 1	$ 0
Miscellaneous Retail Stores NEC	$ 570	$ 382	$ 7	$ 150	0.39	$ 15	$ 8
Pet Shops	$ 47	$ 31	$ 1	$ 11	0.36	$ 1	$ 1

Source: Claritas Business Facts

APPENDIX G. CLUSTER ANALYSIS

The essence of cluster analysis, as applied to corridors, is to identify industries that have some form of competitive advantage in the trade area and are likely to be poised for growth. It has become a popular instrument for downtown revitalization efforts as it provides information regarding the preferences of individuals that are employed in the trade area (the day time population) and are likely to shop in the corridor.

It is essentially carried out in three steps:

1) Calculate location quotients to identify the industries that possess a competitive advantage in the trade area. The location quotient is an index that represents the trade area's concentration of employment in a particular industry, relative to the commensurate concentration for a benchmark location (e.g. US, state, or county average). Indexes greater than one offer a signal that the trade area in question has a competitive advantage in this particular industry, i.e. the industries that successfully exploit the trade area as a place to conduct business. The location quotients are typically calculated for the most recent period for which data are available and compared to a base year, say 5 to 10 years ago. The trick is to identify industries that have a location quotient that is both greater than one and on the rise compared to the base year. Zip code level industrial employment data are quite sufficient to carry out these computations.

2) Evaluate the occupational distribution in the industries that are prominent in the area and are likely to be poised for growth. The purpose of calculating the location quotients is to ultimately understand the types of workers that are employed in industries that display a competitive advantage. This can be accomplished by applying the national industry by occupation tables published by the BLS to the industries in question from the local trade area.

3) Make use of third party data to understand preferences of individuals in these occupations. Inferences can be made regarding the preferences and lifestyles of the workers in particular occupations through the use of third party data. Private vendors, such as Claritas develop lifestyle indicators that capture the preferences of individuals in certain occupations.

This approach has been made particularly popular through the work of Richard Florida, professor of Regional Economic Development at Carnegie-Mellon University. His work has centered on advocating strategies for attracting the "creative class" to downtowns as a matter of economic development policy. The use of cluster analysis involves segmenting occupations into classes based on their shopping preferences and lifestyles. For example, if an area surrounding a corridor has a high concentration of "knowledge workers" (engineers, computer programmers, and the like), development should then center on catering to their shopping habits and lifestyles. Evaluation of consumer expenditure data and lifestyle surveys would suggest that these individuals are more likely to frequent, for example, fancy coffee shops and restaurants over convenience stores.

This approach represents a viable mechanism for developing strategies for reshaping commercial corridors. However, it must be balanced with other techniques.

APPENDIX H. FORECASTING MODELS AND MODELS OF CHOICE AMONG SHOPPING VENUES

As an example of forecasting tools, consider the following models. If time series data are available for a particular corridor for a particular outcome variable such as retail sales per square foot, simple individual forecasting models can be specified like the one below:

$$S_{it} = \alpha_1 + \alpha_2 S_{it-1} + \alpha_3 C_i + \alpha_4 N + \varepsilon_t$$

Where : S_{it} is the sales per square foot in corridor i at time t

C_i is a vector of characteristics of corridor i that are measured at a single point in time

N_i is a vector of characteristics of the neighborhood served by corridor i measured at a point in time.

ε_t is a random error term.

Note that because the available time series data are likely to have short time horizons, sample size requirements are likely to limit the corridor and neighborhood variables to only one or two variables. Models that include lagged values of the dependent variable, called autoregressive models, are frequently used in forecasting.

In many cases, the outcome variables of interest may be observed only infrequently, such as in census years or the survey years for the PCPC's Philadelphia Survey. In these cases, it may be necessary to create forecasting models that pool data across corridors of the same type. An example of this type of model for retail vacancies is:

$$\Delta V_{it} = \beta_1 + \beta_2 \Delta C_{it} + \alpha_4 \Delta N_{it} + \eta_i + \varepsilon_{it}$$

Where : ΔV_{it} is the change in vacancy from time t-1 to time t in corridor i.

ΔC_{it} is a vector of changes in characteristics of corridor i from time t-1 to time t.

ΔN_{it} is a vector of changes in characteristics of the neighborhood served by corridor i from time t-1 to time t.

η_i is a corridor specific "fixed effect"

ε_{it} is a random error term.

This type of model has the advantage of not requiring a long time series—the drawback is that the structure of responses to changes in corridor and neighborhood characteristics must be assumed to be the same across corridor types.

The second type of model displayed above links trend and cross section models, and as such is a good tool to explain existing relationships between measures of success and observable factors affecting demand, cost, competition and external or environmental factors. In many cases, however, we may have

observations on a given performance measure at a single point in time for many corridors. Models using such data would be similar but without the corridor specific fixed-effect parameter.

There is one other class of model that will likely be very important in this type of analysis—models of households' choices among retailing venues. A typical model of spatial shopping choices would look something like the following:

$$R_i^j = \delta_1 + \delta_2 H^j + \delta_3 C_i + \varepsilon^j$$

Where: R_i^j is the choice of household j to shop in retail area i

H^j is a vector of characteristics of household j

C_i is a vector of characteristics of retail area i

ε^j is random error term for each household.

Models of this type estimate the probability that a particular household chooses a particular retailing venue. They can be used to describe household shopping patterns as a function of household characteristics and corridor characteristics. Thus they would be very useful in evaluating the impacts of proposed investments on shopping patterns, which would in turn affect corridor viability.

Once models like those described above are estimated, they can be used as the basis for simulation models. It would be possible to use such models to project the likely impacts of changes in corridor-level, market area-level, or citywide strategies.

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