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Client: East Liberty Development Incorporated (ELDI)

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# East Liberty Crime Data Analysis

Tayo Fabusuyi & Victoria Hill, *Numeritics*\*

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\* Tayo Fabusuyi, Lead Economist and Victoria Hill, Research Scientist are with Numeritics ([www.numeritics.com](http://www.numeritics.com)), a Pittsburgh-based consulting practice. All inquiries regarding the report should be directed to Tayo Fabusuyi at [Tayo.Fabusuyi@numeritics.com](mailto:Tayo.Fabusuyi@numeritics.com). We would like to express our gratitude to Eric Jester and the staff of ELDI who gave generously of their time during the course of the study. We are also indebted to Ben Levitt of the University of Michigan and Jason Zhang of Carnegie Mellon University for their excellent research assistance. The contributions of individuals who took part in the interview sessions are also acknowledged. Finally, the study benefited from comments and feedback obtained from individuals who participated in the Pennsylvania Housing Finance Agency (PHFA) presentation held on September 25, 2013 at the East Liberty Carnegie Library.

## Executive Summary

Within a span of five years, 2008 to 2012, overall crime in the residential area of East Liberty has decreased by 49%, and residential property prices have doubled. These developments occurred in an environment where the median income stagnated and actually declined in real terms and where there was minimal change in the racial composition of the neighborhood. This crime reduction is significantly greater than what occurred in the City of Pittsburgh during that period, and is also larger than that observed for comparable neighborhoods in close proximity to East Liberty.

A series of questions prompted by these developments are what informed this study. Numeritics, a Pittsburgh-based consulting practice, was approached by the real estate arm of East Liberty Development Incorporated (ELDI), to examine the linkages between these developments and ELDI initiatives. Numeritics was tasked with providing plausible reasons that explain these developments; examining the degree to which ELDI was responsible for them and documenting the process by which these outcomes were achieved while providing some formalism on the process.

ELDI staff who live in or around East Liberty came to the realization that crime is a real estate problem and therefore requires a real estate solution. In their experience, most of the criminal activity emanated from or around nuisance properties typically owned by slumlords, an observation buttressed by existing “hot spot” literature on crime that shows that 3% of addresses are responsible for 50% of all service calls to the police. This prompted the decision to embark on targeted acquisition of these properties at scale – a strategy reminiscent of the hot spot theory.

Decisions on which properties to target came out of a combination of approaches. Using a “boots on the ground” approach, ELDI staffers became intimately involved in the neighborhood. They listened to complaints from neighbors, talked to the police and examined crime statistics. As a result of this process, East liberty “hot spots” were identified, most of which were either slumlord or abandoned properties. These properties were then targeted for acquisition by ELDI. In total, more than 200 units were purchased, representing 3% of the total rental housing units within the neighborhood. Post-acquisition, effective property managers were put in place to regulate the conduct of the properties and to function as place-owners.

This strategy of property acquisition and management was strengthened by a number of complementary initiatives that helped to increase neighborhood cohesiveness. Beginning in 1997, ELDI has been highly conscious of involving neighborhood residents in the planning, decision-making and redevelopment process. These efforts allowed for the rebuilding of neighborhood cohesion and trust; what some call “collective efficacy;” the willingness of neighbors to intervene on behalf of the common good. This side effect in turn increases informal social controls; or neighbors looking out for each other, with the result being a positive effect on crime rates.

This unique hybrid strategy – the combination of hot spot intervention that is real estate driven and initiatives geared towards improving the neighborhood’s characteristics is what sets ELDI apart from other community development organization. The effectiveness of the strategy is aptly demonstrated by the degree of reduction in crime especially within the residential area and the increase in property prices. More importantly, this has taken place in an environment in which affordability of rental units by low income families was not sacrificed for increased safety. In our assessment, ELDI has been in the driver’s seat of this change given that the Zone 5 of the City of Pittsburgh Bureau of Police is understaffed and the absence of any major undertaking with regards to public safety efforts by City Hall.

These developments are however not without cost. For one, the use of off-duty police and the higher vacancy rate stemming from the screening procedure for potential tenants impacts negatively on the organization’s bottom line. Second, as the neighborhood has become more desirable, property prices and rental rates have increased amidst development that threatens to drive out long-time residents. Mindful of the goal of a mixed income neighborhood, ELDI has historically used deliberate and purposeful strategies to maintain affordable housing in East Liberty. However, the surge in demand for rental properties has increased the opportunity cost to the organization of achieving this objective. Third, the slumlord properties typically targeted for acquisitions are so run down they cannot be placed in service without significant investment. For most of these properties, the units need significant work to be viable and the market could not yet justify the development cost. Consequently, the housing market, left to its own devices, will not address these issues. This and the earlier mentioned issues provide a compelling reason why soft funds like the Low Income Housing Tax Credit (LIHTC) should be provided to ELDI.

## Overview and Background

From the late 19<sup>th</sup> Century through the mid 20<sup>th</sup> Century, East Liberty, a neighborhood in Pittsburgh's East End, was a bustling and successful area. During this period, East Liberty had a thriving business district, which was the third largest downtown shopping area in all of Pennsylvania. The homes in the neighborhood were built for the captains of the industries that dominated Pittsburgh's business landscape. The neighborhood itself was a transportation hub; with rail, roads and streetcars passing through it, all of which brought businesses and shoppers to the area. However, beginning in the 1960's, disastrous urban planning including the misguided building of a pedestrian mall along with a number of high-density high-rise housing projects nearly destroyed East Liberty. The area was thrown into instability and turmoil and within a span of just a few years, East Liberty became a blighted neighborhood. Unemployment and criminal activity rose and the neighborhood was perceived as unsafe.

East Liberty Development Incorporated (ELDI) was formed in 1979 to address these problems by fostering the revitalization of East Liberty. From its creation through the late 1990's ELDI's efforts did not bear much fruit. In the late 1990s, a number of new leaders in East Liberty brought a sense of urgency to tackling the neighborhood's problems. Through a community-driven process, "*A Vision for East Liberty*," a 10-year master plan for development was created. This document, recently updated along with new ideas and initiatives now drives the work of ELDI. As an essential part of this, ELDI works in close collaboration with neighborhood stakeholders in the areas of *Planning, Advocacy, Facilitation and Investment* in order to bring about positive change in the community.

Major efforts from the master plan enabled the replacement of the high-rise housing projects with low-rise, townhouse-style mixed income housing. Other development efforts focused on bringing businesses, shops and restaurants back to the area. Within the residential area, a primary objective of the organization is achieving a mixed income neighborhood that is safe, stable and sustainable with development efforts that benefit all residents. A significant strategy in realizing this objective is gaining control of all abandoned, vacant and problem properties within the neighborhood. This strategy has paid dividends as evident by the fact that East Liberty is past the tipping point in a transformation from the urban ghetto of the mid to late 20<sup>th</sup> Century, to regaining its prominence as a thriving business district and a desirable place to live, work and shop; a *location of choice*. From 2008 to 2012, there was a 49% decrease in crime incidents and home prices more than doubled within the same period.

It is on this basis that ELDI Real Estate, the real estate arm of ELDI reached out to Numeritics, a Pittsburgh based consulting practice. Specifically, Numeritics was tasked with examining the connection between ELDI community development activities and the significant reduction in crime in East Liberty. Apart from documenting ELDI activities, there was interest in putting more structure and formalism on the semi-organic process that informed the strategy and the activities employed in implementing that strategy. This is expected to give guidance to other groups who may have interest in replicating ELDI's approach.

## Theoretical Basis for the Intervention Strategies

In explaining the successes that ELDI has had in the revitalization of East Liberty, we look to a number of evidence-based theories that are relevant to that transformation. This is not to say that ELDI modeled their efforts on these theories, but rather that we are codifying them in order to understand why their efforts have been successful. We have chosen to examine the theoretical basis for these interventions using two lenses – first, initiatives and activities relevant to hot spot theories and second, those relevant to the neighborhood’s social characteristics.

In 2006, two ELDI staff lived in the vicinity of the 500 Block of North Negley Avenue, one in East Liberty and the other in Garfield. Each had continuous, daily, personal exposure to crime in the neighborhood and all that such exposure entails. Eric Jester, an ELDI Project Manager, described the impact of crime on himself and his family on Mellon Street as “existential.” In their experience, most crime incidents emanate from the residents of nearby nuisance properties owned by slumlords or abandoned properties. A decision was made to embark on targeted acquisition of these properties at scale. These micro or direct interventions at specific addresses are similar to the hot spot policing approach (Sherman et al, 1989<sup>1</sup>; Spelman, 1995<sup>2</sup>; Weisburd et al, 2004<sup>3</sup>; Weisburd & Braga, 2006<sup>4</sup>; Braga et al, 2010<sup>5</sup> & 2011<sup>6</sup>).

The literature cited above identified that a very small percentage of physical addresses in a neighborhood are responsible for a disproportionate amount of criminal activity, and if police can intervene in these addresses, there can be a correspondingly disproportionate decrease in crime. The ratios vary - for example, the 3% of addresses generating 50% of all calls to the police is attributed to Spelman in his Minneapolis study while Braga et al (2010) in a study of crime trends in Boston found that 5% of street segments are responsible for 74% of gun crimes. For Weisburd et al (2004), it is a 1:10 ratio using data from Seattle and a whopping 1:50 ratio, i.e., 1% of the street units generated 50% of commercial robberies in a three decades study of Boston crime data by Braga et al (2011).

While there could be variations as to the exact ratio and the nature of the crime, there is a consensus that crime clusters in few places and that preventative measures could be very effective if administered surgically. If 3% of the addresses in a city produce more than half of all the requests for police

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<sup>1</sup> Sherman L, Buerger M, Gartin P (1989a) Repeat call address policing: The Minneapolis RECAP experiment. Washington, DC: Crime Control Institute

<sup>2</sup> Spelman W (1995) Criminal careers of public places. In: Eck JE, Weisburd D (eds) Crime and places: Crime prevention studies 4, Willow Tree Press, New York

<sup>3</sup> Weisburd DL, Bushway S, Lum C, Yang S (2004) Trajectories of crime at places: a longitudinal study of street segments in the city of Seattle. *Criminology* 42:283–321

<sup>4</sup> Weisburd D, Braga AA (2006) Hot spots policing as a model for police innovation. *Police innovation: Contrasting perspectives* 225–244

<sup>5</sup> Braga AA, Papachristos AV, Hureau DM (2010) The concentration and stability of gun violence at micro places in Boston, 1980–2008. *Journal of Quantitative Criminology* 26:33–53

<sup>6</sup> Braga AA, Hureau DM, Papachristos AV (2011) The relevance of micro places to citywide robbery trends: a longitudinal analysis of robbery incidents at street corners and block faces in Boston. *Journal of Research in Crime and Delinquency* 48:7–32

response, then concentrating police in these locations makes more sense than spreading them evenly through a police beat. For this study, we have chosen to adopt Spelman's ratio (3:50) given that it is fairly conservative, references specific addresses and it best approximates the findings from the East Liberty crime data analysis. This ratio, which we subsequently call the 3 – 50 rule, is a crucial aspect of ELDI's strategy.

Acquisitions are based on complaints from neighbors, observed nuisance properties and when a buying opportunity presents itself. Oftentimes, these acquisitions are targeted at problematic properties and when associations could be made between a property and criminal activities. In essence, ELDI used the theory of hot spot policing, but used property acquisition and management as the intervention. In fact, criminal activity data analysis revealed that ELDI had intervened in about 3% of all of the residential rental units in East Liberty, and that the crime rates decreased by approximately 50% over the period in which the property acquisition and management strategy took place – a validation of the 3 – 50 rule applied using a different form of intervention.

While ELDI's approach is reminiscent of hot spot policing, the strategy comes with some modification. The organization's strategy is real estate-centric and the menu of interventions are broader compared to just hot spot policing. For the acquired properties, orderly property management was put in place through the hiring of a no-nonsense property manager – an example of a place based management approach (Eck & Wartell, 1999<sup>7</sup>). Place-based initiatives attempt to leverage resources by focusing investments and corrective action measures in targeted places. These measures can be instrumental in changing the culture of disorderly conduct and criminal activities in specific places as demonstrated by Eck in a San Diego study of a randomized experiment in apartment complexes.

ELDI has intuitively borrowed from these bodies of work by implementing a strategy aimed at reducing crime through the property intervention at or near crime hot spots. We have labeled this *hot spot intervention* of which policing is a subset. The hot spot intervention also includes a rigorous screening procedure for prospective tenants, frequent inspection of the units and putting more boots on the ground by employing uniformed off-duty police officers to patrol both ELDI and non-ELDI properties that are deemed problematic.

Apart from these direct interventions, ELDI has also been instrumental in influencing and shaping the social characteristics of East Liberty. Evidence from previous studies suggests that high levels of structural density in a neighborhood lead to increase crime rates. Between 2001 and 2005, structural density in East Liberty was reduced significantly when the high-rise projects in the commercial district of the neighborhood were replaced with scattered mixed income properties. Subsequent acquisitions have also emphasized a movement towards the use of scattered sites to avoid the concentration of poverty particularly for the portfolio of their apartments meant for low-income families.

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<sup>7</sup> Eck, John E. and Julie Wartell 1999 Reducing Crime and Drug Dealing by Improving Place Management: A Randomized Experiment. Research Preview. Washington, DC: National Institute of Justice.

One of the major aspects of the work that ELDI has done is its emphasis on partnerships and collaborations, and its use of town hall meetings and other platforms that put the residents in the driver's seat of the decision-making process. As noted in one of their recent Annual Reports, "...ELDI works to build relationships, navigate public processes, and raise resources for partners to achieve their missions for East Liberty." The seeding of these collaborations and partnerships using platforms that place the residents squarely in the center has helped foster a sense of belonging and ownership within the neighborhood and consequently nurtured the *collective efficacy* (Sampson, 1989) within the neighborhood. Essentially, these relationships build trust, and the sense of community that emerges enhances residents' desire to act on behalf of the common good. This helps to enforce social informal controls without the intervention of outside authorities such as the police. Collective efficacy also helps to counteract the effects of Social Disorganization,<sup>8</sup> a theory that suggests that crime happens when community relationships and local institutions fail or are absent.

Last but not the least is the Broken Windows theory (Kelling & Wilson, 1982). This theory posits that there is a negative signaling effect of urban disorder that encourages more vandalism and crime. ELDI ensured that vacant properties' grass was cut, broken windows were at the very least boarded up, and garbage was picked up. At times ELDI performed these tasks on abandoned properties that they did not even own in order to generate a sense of order in the neighborhood.

### **ELDI Strategies and Activities**

In examining the overall strategy employed by ELDI, what is obvious is how the strategy has been able to build on the organization's existing strength in community building complemented by effective hot spot interventions. By and large, ELDI's strategy for achieving its goals evolved in a semi-organic manner, shaped largely by the staff's personal experiences. In conversations with Eric Jester, a resident of East Liberty and ELDI's Project Manager tasked with handling ELDI's Residential Development, he described the work as "intensely personal" and mentioned that the strategy they employed was informed by the "existential reaction to the prevailing environment."

The strategy combines elements of social interaction (i.e. "let us try and see if it works") with intellectual cogitation (theoretically proven concepts and best practices). Initiatives that worked were refined and made more specific to East Liberty's situation. The ones that did not work were jettisoned. Over a period of time, some existing literature on crime was built into this mode of thinking. Concepts and theories like the Broken Windows that rang true were adopted by ELDI. Lawns were mowed and abandoned properties were boarded up. The strategy of targeted property acquisition coupled with rigorous property management, mirrors to a very large degree both place based management and hot spot policing approaches.

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<sup>8</sup> Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing social-disorganization theory. *The American Journal of Sociology*, 94, 774-802.

Wilcox and Eck coined the phrase “The iron law of troublesome places” to identify that a few specific localities have a very large proportion of crime. As mentioned earlier in the study, these *hot spots* generate a significant portion of criminal activities for any neighborhood. In East Liberty, the single characteristic that most of these properties possess is that they are owned by slumlords. The slumlords charge below market rent, pay scant attention to the physical condition of their properties, and ask no questions of the tenants who in turn make no demands on the landlord.

The importance of this is not lost on the staff at ELDI. This realization allowed the problem of crime to be framed as a real estate problem, and begs the question “If crime is a real estate problem, does it demand a real estate solution?”

This line of thinking explains ELDI’s *targeted acquisition at scale strategy*. More than 200 units were purchased, representing 3% of the housing units within the neighborhood. Post-acquisition, an effective property manager was put in place with zero tolerance for disorderly behavior and criminal activities. Problematic tenants were evicted and off-duty cops were brought in at random to literally, sit in front of nuisance properties in close proximity to ELDI properties.

This strategy has been very effective. Within the residential area, there has been approximately 50% decrease in crime within a

#### Box 1: The Economics of Slumlords

A slumlord maximizes his income stream by reducing maintenance costs to near zero. Absent much maintenance, a property’s integrity suffers with the attending negative effect on the immediate surroundings. What becomes inevitable is that some form of parasitic relationship develops, where depending on where you draw the boundary, the slumlord and his tenants are the parasites and the neighborhood, the host. This parasitic relationship is neither a symbiotic one in which both the parasite and its host flourish or continue to exist in a manner that doesn’t jeopardize the host’s wellbeing nor is it a debilitating one in which the parasite feeds off its host until there is nothing left to consume. On the contrary, it is a relationship with an equilibrating mechanism that ensures that the host continues to exist albeit with a diminished quality of life. We call it equilibrium because the agents – slumlords and tenants have no incentive to deviate from the status quo. Over time, however, this equilibrium may give way to a downward spiral as residents vote with their feet and demand for housing within the neighborhood plummets.

This dysfunctional ecosystem thrives when there are renters with limited choices and landlords with limited ability to raise rents. These agents are motivated to act purely in their self-interest and will exercise options that provide them the best outcomes. When the neighborhood is such that it cannot sustain high rents, a single repair to a property could wipe out an entire year of a landlord’s profits. A property in need of repairs attracts a clientele who is willing to overlook those things. The over-looking, however, happens on both sides. The landlord is more concerned with not losing a tenant who doesn’t make demands, and consequently, the landlord doesn’t ask questions about the tenant’s behavior.

Eventually a vicious cycle unfolds. Lower rent translates to thin margins which lead to less investment. Or it could be the other way round where less investment leads to fewer demand and the landlord has to lower the threshold in terms of his demands – monetary or otherwise. Either way, over time the situation gets so bad that simple repairs are not feasible from a business perspective.

Compounding the problem is the fact that most slumlord units are old and require lots of capital improvements. A repair as simple as a bath vanity could take a substantial chunk out of a slumlord’s annual income. A more involved renovation like installing new kitchen complete with new cabinets, counters and flooring could cost the slumlord years of annual revenue. When possible, the slumlord resorts to shortcuts like smothering tar on the property’s roof, delaying repairs or ignoring aesthetics.



span of five years – the period from 2008 to 2012. However, this comes at a cost. The units are typically in such poor condition that the cost of repairs is in excess of the ultimate value of the renovated unit. In the absence of soft funds to cover the cost of repairs, ELDI is forced to operate units in poor condition without making adequate repairs, which in turn makes the units harder to rent and keep rented. Whereas a slumlord would solve this problem by accepting questionable tenants, ELDI’s rigorous screening procedure for potential tenants and the zero tolerance for disorderly conduct necessarily translate to a higher vacancy rate. In addition, the frequent inspection of units and having uniformed off-duty police officers brought in periodically to patrol perceived hot spots adds to the operating budget.

However, an ideal environment will be one in which the neighborhood would police itself without the need for such outside intervention. In order for the reduction in crime to be sustainable, the “on the spot” or hot spot interventions need to be complemented with social informal controls. The challenge then is - in what way can the consciousness of the neighborhood be raised to such a degree that residents know that disorderly conduct and similar behavioral patterns will not be tolerated?

It is essentially this question and the desire to achieve sustained reduction in crime incidences that have informed ELDI overall strategy. Apart from hot spot interventions, the organization has been able to leverage on the goodwill and social capital generated by more than two decades of community development in East Liberty. This includes its credibility within the neighborhood; the positive changes it has seeded; the collaborative partnerships it has fostered and the vehicles and platforms it has created in order to involve residents and give them a say in the decision-making process.

#### *Conceptual Framework`*

Figure 1 presents a panoramic view of the overall strategy and the activities that drive the strategy’s

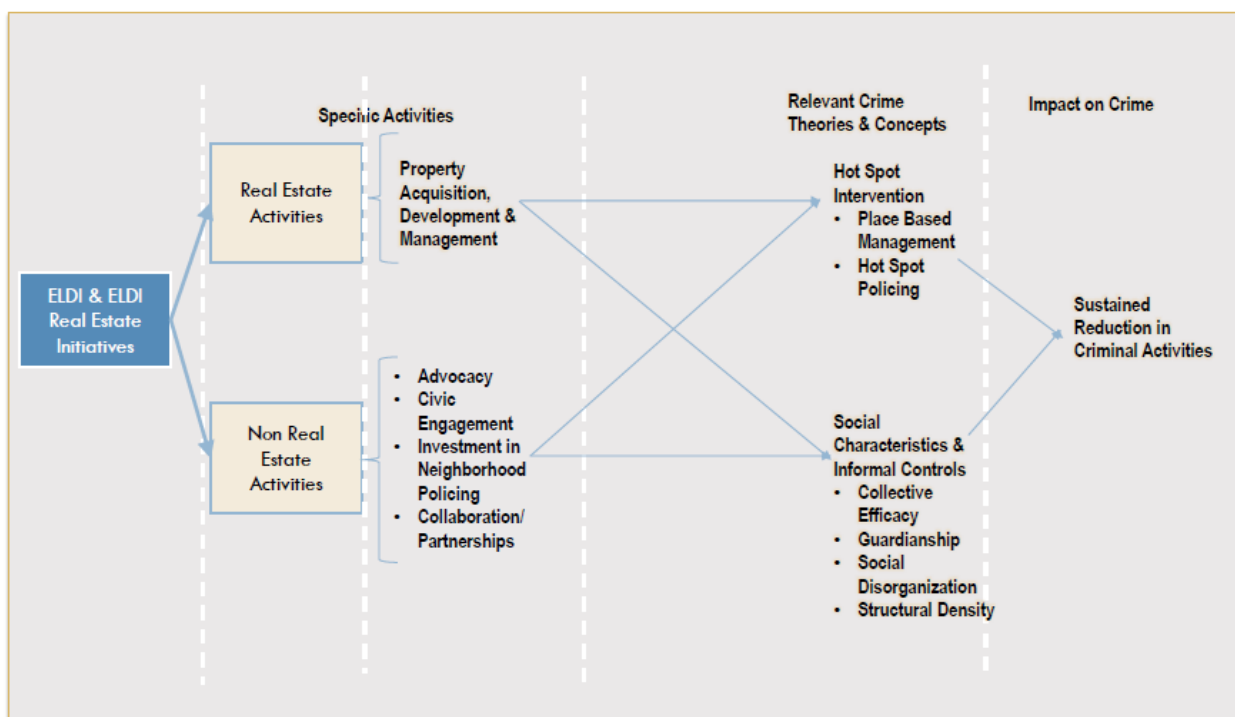


Figure 1: Conceptual framework

implementation. What we seek to achieve with the framework is to put more structure on the semi-organic nature by which ELDI Real Estate functions. In addition, we intend to use the framework to answer the question - given the *what* i.e., the decrease in crime rates, what plausible reasons explain the *why*.

Our approach to addressing the question is one of a retrospective assessment. The conceptual framework is presented as a hierarchy with five separate layers and structured in such a way that blends both hot spot intervention activities with initiatives that influence the neighborhood's social characteristics. We find this approach innovative in that it combines both hot spot intervention with social informal controls in a way that guarantees that the reduction in crime could be sustainable.

The objective is to use this framework to demonstrate the effect that ELRE's initiatives have had on East Liberty crime rates through reducing the situational opportunities for criminal activity and improving the neighborhood's social characteristics. These initiatives are broadly categorized into two - a direct one that is primarily focused on the situational opportunities for crime and an indirect one that shapes East Liberty's social characteristics.

The framework builds on the logical relationship between adjacent layers, which are delineated by the dotted white lines. This relationship could be either *structural* (elements to the right are subsets of the layer immediately before it) or *functional* (achieving elements at any level is dependent on elements immediately before it). ELDI's strategy is captured by the framework where specific elements of the hierarchical framework represent the activities, the concepts and the impacts observed. For each layer, more information is provided on the elements and the functional relationship is specified. The box at the extreme left represents the two arms of ELDI - both community development and real estate arms.

Subsequent layers provide more information on these initiatives - initially categorizing them into real estate and non-real estate activities and then, specifying the exact nature of the activities that were carried out. The balance of the framework represents more functional relationships. One captures the linkages between these activities and crime relevant theoretical concepts and the second shows how these concepts impact on crime reduction. The latter is proven given the rich body of work in existence that documents how these concepts have led to reduction in crime rates. The challenge is with the former - being able to show how these activities are deployed to address the hot spot interventions and how they shape the social characteristics of East Liberty. It is essentially this we seek to demonstrate in the concluding part of this section.

#### *Initiatives and activities that drive this strategy*

ELDI activities are categorized broadly into two. These are real estate, which includes all activities related to property acquisition, development and management and non-real estate that encompasses advocacy, civic engagement, collaboration and partnerships fostered, investment in neighborhood policing etc. An appreciable number of the real estate activities are micro in nature with direct

impacts on specific addresses and the non-real estate activities are indirect with the impacts typically felt at the neighborhood level.<sup>9</sup>

### Property Acquisition

ELDI's primary real estate initiative is property acquisition and management. With this initiative, some of the activities are ex-ante in nature – for example, identifying candidate properties to acquire and some are ex-post property acquisition. Examples of ex-post acquisition activities include screening of potential tenants, hiring effective property managers and conducting random and periodic unit inspections. Typically, these acquisitions are targeted acquisitions and often done at scale - a reflection of ELDI's belief in the 3 - 50 rule. The figure below provides evidence of the magnitude of this activity using building permit data.

Figure 2a shows building permit data over a 12 year period for four neighborhoods<sup>10</sup> – East Liberty, Highland Park, Garfield and Morningside. Building permit data for East Liberty tracks that of Highland Park except for the occasional spikes observed in 2006 and 2011 and to some degree in 2008. East Liberty's building permits as a percentage of the total number of building permits issued in Pittsburgh's Ward 11 ranges from a low of 37% in 2002 to a high of 78% in 2006. In recent years, the percentages have been 54% in 2010, 67% in 2011 and 50% in 2012.

The spikes observed in 2008 and 2011 could be attributed to ELDI. Figure 2b shows the breakdown of the building permits issues in East Liberty. The area in red represents the total number of building permits issued to ELDI over the two year period. The area in green represent the building permits issued to

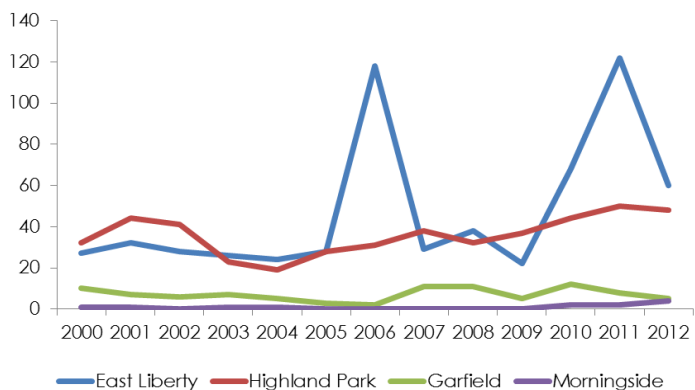


Figure 2a: Building permits data for four neighborhoods

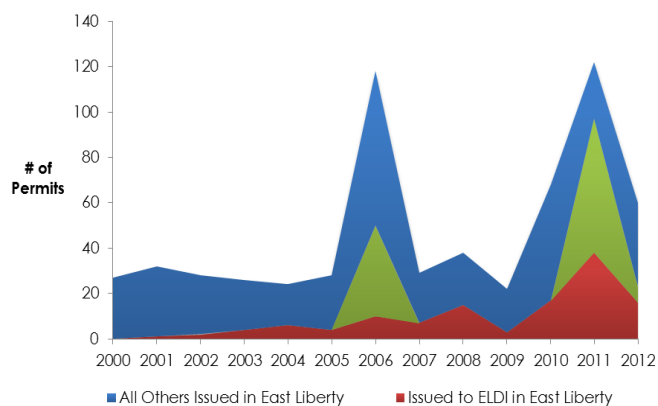


Figure 2b: Building permits data for East Liberty

<sup>9</sup> An example of an activity that doesn't fit squarely with this classification is the investment made in hiring uniformed off-duty police officers. This obviously is part of the non-real estate activities though the intervention is of a direct type and micro in nature.

<sup>10</sup> The neighborhoods of Highland Park, Garfield and Morningside border East Liberty.

ELDI in partnership with other entities while the blue area represents all other permits issued in East Liberty. To give a sense of the magnitude of permits that can wholly or partially be attributed to ELDI, the organization was responsible for or helped facilitate approximately 80% of all the building permits issued in East Liberty in 2011.

### *Non-Real Estate Initiatives*

As mentioned previously, ELDI's activities have taken the form of Planning, Advocacy, Facilitation and Investment. The organization's real estate activities have made significant financial investments in East Liberty's residential and commercial real estate. At the same time, ELDI realizes that successful neighborhoods need more than just improved real estate. In 1999 ELDI, with the input of residents, business owners and other stakeholders created its first long-range 10-year master plan called *A Vision for East Liberty*. This stakeholder engagement process, repeated in 2010 to form the current community plan, created the structure on which the organization's activities are anchored. The master plan also set the stage for more detailed land use plans, traffic studies, bicycle plans, tree plantings and other processes leading to positive community change.

Using the community plan as a backbone, ELDI advocates for the goals laid out in the plan and other working documents. Advocacy efforts have taken place both within East Liberty and in the regional and national arena in order to promote the community agenda. Efforts such as serving on countywide task forces to effect change to the transit system or on storm water guidelines are a part of what ELDI does in the way of advocacy.

Facilitation is another essential piece of the puzzle. ELDI works to facilitate public processes, build relationships and raise resources in order to achieve their objectives for East Liberty. This relationship building may take the form of supporting funding applications for nonprofit partners, serving as a liaison between city government and ELDI stakeholders or helping other groups create their own long-range plans. ELDI partners with other neighborhood community development corporations (CDCs) in Bloomfield, Garfield, Friendship, Highland Park, Lawrenceville, Larimer and Shadyside. The organization also works to create comprehensive systems of collaboration and communication among service providers.

Finally, ELDI assists with putting financial backing behind this plan. This could be in form of debt at market rate, concessionary or soft loan, tax credits or grants. All of these efforts - planning, advocacy, facilitating and investing complement one another. When residents feel that their voice is being heard, and that others are working on their behalf, community cohesion and trust is built. Accompanying community cohesion and trust is collective efficacy, where residents become willing to intervene to aid one another. This in turn creates informal social controls which generate stability in the neighborhood.

## Documented Impact and Outcomes

We used a mixed method approach to document the impact and outcome of ELDI's strategy. This entails carrying out detailed analysis on existing secondary data and conducting a series of semi-structured interviews with a selected number of individuals. These individuals include residents, the Pittsburgh Police Zone 5<sup>11</sup> commander and ELDI staff. This approach provides a robust platform in that the study employs quantitative measures of the value-added by ELDI and the measures are then complemented by vignettes and stories from the interview sessions to provide rich, context-specific and well-rounded findings.

### *Qualitative*

Numeritics conducted a series of semi-structured interviews with East Liberty residents, business owners and the Pittsburgh Police Commander in charge of Zone 5, in which East Liberty resides. All subjects have a stake in the issue at hand, and each was very receptive to talking with us about ELDI's activities within the neighborhood. The goal of the interviews was to use this platform to collect and recognize thoughts, opinions and perceptions that may not be captured through other data collection methods as regards the impact of the efforts of ELDI and to complement these findings with the quantitative data collected.

We created a semi-structured interview protocol to use as a guide, but we were open to changes in the direction of the discussion based on the interviewee responses. All the residents confirmed that they have benefited from ELDI Real Estate property acquisition management strategy. The individuals interviewed said they have observed positive neighborhood changes as a result of ELDI's partnering with local community groups, banks and nonprofits to create synergies as they worked towards revitalizing the neighborhood. The summary notes of the responses from residents are provided in Box 2.

Particularly noteworthy is the conversation we had with the Commander Tim O'Connor, the Zone 5 Commander. The Commander was very appreciative of the work that ELDI does, and for the relationship that ELDI has fostered with the police department. He acknowledged that ELDI has helped the police by acquiring and managing nuisance and problem properties; contributed to enhancing the neighborhood cohesiveness which in turn increases cooperation of residents with the Police

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<sup>11</sup> The Zone 5 of the City of Pittsburgh Bureau of Police covers the neighborhood of East Liberty, Highland Park, Stanton Heights, Morning Side, Garfield, Friendship, Bloomfield, Larimer, Lincoln-Lemington-Belmar, Homewood and East Hills.

## Box 2: Summary Notes for the Semi – Structured Interviews

A more recent transplant to East Liberty from the Washington D.C. area cited ELDI's efforts as the primary reason why she and her spouse decided to purchase a home there. This woman had attended graduate school in Pittsburgh and was looking to buy. Their real estate agent suggested looking at the new homes that ELDI had built in the heart of East Liberty. In investigating the neighborhood, they talked extensively with ELDI personnel, who were honest about the area, but also confident about the potential of the neighborhood. The woman and her spouse were the first to buy one of the new homes in 2009. Directly next door to their house was a slumlord property; a single-family home illegally subdivided into apartments. For some time after their purchasing the home there were fights in front of the home, police were called, even a high-speed chase went on in the alley behind their house. Within a short time, however, a young couple bought the neighboring house and converted it back to a single family home, in large part due to the fact that investing in the neighborhood now made sense, with multiple brand-new homes built by ELDI on the same street. After living in East Liberty for several years, the woman decided to fulfill her lifelong dream of entrepreneurship by opening up her own shop, in East Liberty.

Another resident of eight years moved to East Liberty from an adjacent neighborhood where he lived for 18 years as a renter. When he decided it was time to buy a house, he was priced out of that neighborhood, so he expanded his search to East Liberty. He bought a century-old historic townhouse on a street parallel to the street on which ELDI build brand-new homes, which was a major factor in his decision-making. In 2005 this resident had to deal with a number of issues such as high levels of noise, garbage strewn on the street, nearby drug and prostitution houses. He became president of the historic housing area on his street, and took a personal interest in positive change in the neighborhood.

In those eight years he credits ELDI with doing a great deal to move the neighborhood forward. He says "ELDI works hard at identifying community allies – bringing them together to talk about the problems in the neighborhood. They would talk about what they were doing in their real estate division based on an overall strategic approach and would make recommendations to the residents, to community leaders, to banks and nonprofits working in the area. ELDI is more like city government than city government. We would call ELDI for help rather than calling city government, because we knew we would get a response." Right now he says the street is quiet and clean – with the only noise being construction sounds of people renovating their homes.

We also interviewed a long time resident of East Liberty. This woman had lived in the same house for over 40 years, and had seen East Liberty through good times and bad. It was shortly after she moved in that life in East Liberty took a turn for the worse. She never thought of moving out and her perseverance paid off. She is very impressed with what ELDI has done in the neighborhood. A number of the homes on her street have been impacted by ELDI. Directly across the street from her house are three historic turreted row-houses which were neglected for a long term and were placed on the demolition list. ELDI purchased the homes, completely renovated them and turned them into market-rate homes. Other homes and apartments on the street have been acquired by ELDI and are now high-quality affordable rate homes.

Her assessment is that ELDI's efforts have really helped in decreasing crime in all areas of the neighborhood. Her opinion is "I don't know where the crime goes and I really don't care." When asked what of ELDI's activities, in her opinion, had the biggest impact, she said "the best thing they do is buying the properties. That has made the biggest change on the block. There's no dirt on the street and I didn't have to clean it up. This has been the best summer that I have had since I moved here 40 years ago. It's so peaceful."

The commander said he observed a lot of residential construction within the neighborhood – especially between East Liberty Boulevard and Stanton Avenue. He commented that many of the slumlord properties provided a low quality of life for their residents, and that the properties that ELDI has acquired and now manage as either affordable or market-rate housing are much better for their residents. He sees the ELRE's property management strategy of purchasing problem properties and using aggressive managers as creating a huge disincentive for individuals who are up to no good.

Having a zero tolerance for misconduct gets rid of problem tenants. In addition, ELDI's strategy of hiring off duty police officers to patrol nuisance properties has also sent a strong signal to the community that disorderly conduct will not be tolerated, and that police are active and engaged in the neighborhood. The commander said that East Liberty is definitely trending in the right direction, while acknowledging that challenges still remain given that it is still a neighborhood in transition. This trend has been beneficial given the decrease in foreclosures, vacant properties and boarded-up properties. He also mentioned that the decrease in crime in East Liberty was not as a result of crime moving to adjacent neighborhoods, as crime in those neighborhoods has not increased at the same time that East Liberty's has decreased.

A significant issue of relevance to the Commander is that Zone 5 has more crime per capita than other zones in Pittsburgh. This situation, juxtaposed with the fact that he is operating at only 2/3 of his ideal staff strength makes him see great value in having a working partnership with ELDI for a host of reasons. The first is has already been mentioned; fewer nuisance properties translate into fewer police calls for problems at those properties. In addition, ELDI's work to develop a better sense of community cohesion translates into more cooperation between residents and the police.

#### *Quantitative*

The quantitative measures of outcomes include trend data on crime and a retrospective assessment of property prices. These analyses were carried out using secondary data. For all these measures, we have used multi-year data that provide not only a snapshot at a point in time, but more importantly provides a trend that presents a more comprehensive picture and on which some assessment could be made with regards to future states. The analysis examined East Liberty data on crime incidences and property prices relative to other neighborhoods in close proximity to East Liberty.

Annual data on crime from 2008 to 2012 was obtained from the Pittsburgh Police Department and includes most of the neighborhoods in Pittsburgh's East End. The crime incidences are classified broadly into two categories<sup>12</sup> – Part I crime, which covers eight serious crimes which could either be against persons (aggravated assault, homicide, rape and robbery) or property (arson, burglary, auto theft, and larceny). Part II covers a litany of lesser crimes that are not reported as reliably as Part I crimes. The list includes public disorder, white collar crime, drug and alcohol offenses and all other crime not otherwise specified excluding traffic violations.

Six neighborhoods in total were analyzed from 2008 to 2012. Apart from East Liberty, the neighborhoods included Larimer, Garfield, Highland Park, Shadyside and Friendship, all of which border East Liberty. To control for differences in population across these neighborhoods, the crime data was converted to number of incidents per thousand of population. The aggregated crime analysis

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<sup>12</sup> The classification is based on uniform crime reporting (UCR) standard that was released in May 1985. This version provided modifications to the approach used in reporting crime that dates back to January 1930.

revealed that there was a decrease in crime from 221 in 2008 to 164 crime incidents per thousand in 2012. This represents a 26% decline in total crime in East Liberty over the five year period compared to 20% for the surrounding neighborhood. Citywide, the same period witnessed a 16% decrease in crime incidents measured per thousand of population.

Since aggregation masks local realities, another series of analysis was carried out using disaggregated data. The findings revealed that Part II crimes fell by 30% in East Liberty compared to 25% in surrounding neighborhoods. However, Part I property crimes decreased by only 4%. This could be explained by the contradictory effect created by a thriving and more vibrant business district. The significant increase in commercial activities in recent times has generated more opportunities for larceny, auto theft and burglary and consequently, the development has helped sustain relatively high Part I property crimes.

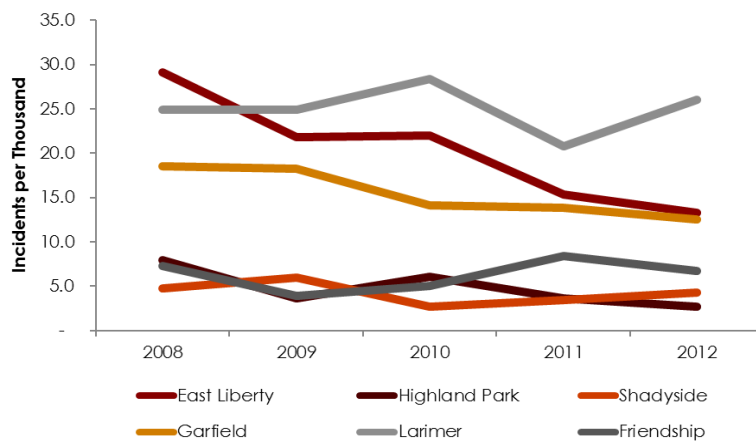


Figure 3a: Crime Incidents for selected neighborhoods

more relevance to residential population compared to the transient population of the business district. Second, establishing the value-added from ELDI's strategy and activities, particularly the hot spot interventions, has more relevance for Part I (persons) crime.

The year on year decrease in Part I crime against persons is particularly noticeable for East Liberty given the steep negative gradient. Given its relevance to and the study's interest in East Liberty's

Within the same period, Part I crime against persons decreased by 54% in East Liberty compared to 37% for the surrounding neighborhoods. The decrease in this type of crime for each neighborhood is shown in Figure 3a. Given this study's emphasis on the residential area, this crime subset is the crux of our analysis for two reasons. For one, these are more reliable data since they are often reported and have

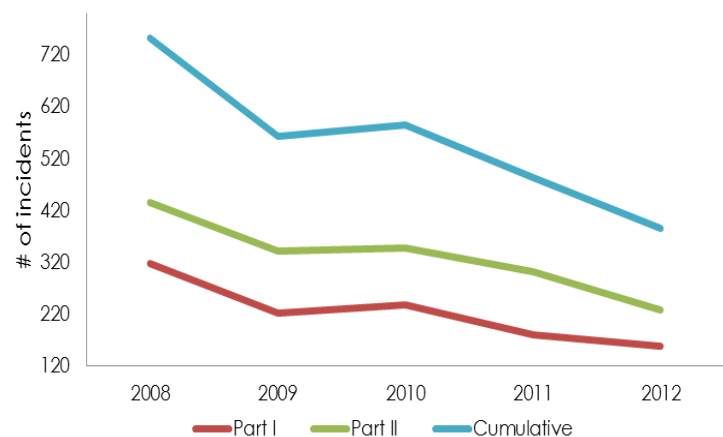


Figure 3b: East Liberty crime data by type



residential area, we enriched the analysis by examining the crime data with the commercial district excluded from the analysis. Figure 3b expatiates on the different crime types but now with a focus solely on the residential part of East Liberty. Within the residential area, criminal incidents, irrespective of the type decreased by 48.9%. The disaggregated figure shows a decrease of 50.2% in Part I crime and a 47.9% decrease in Part II crime.

### *Crime Heat Maps*

We showed the crime statistics for the neighborhoods in the east end of Pittsburgh using heat maps. The neighborhood heat maps were generated using the Kernel density smoothing approach and are shown in Figures 4a-b. The colors for the heat maps mimic the traffic light colors with red depicting the worst-case scenario, amber or yellow representing a tolerable situation and green, the ideal state.

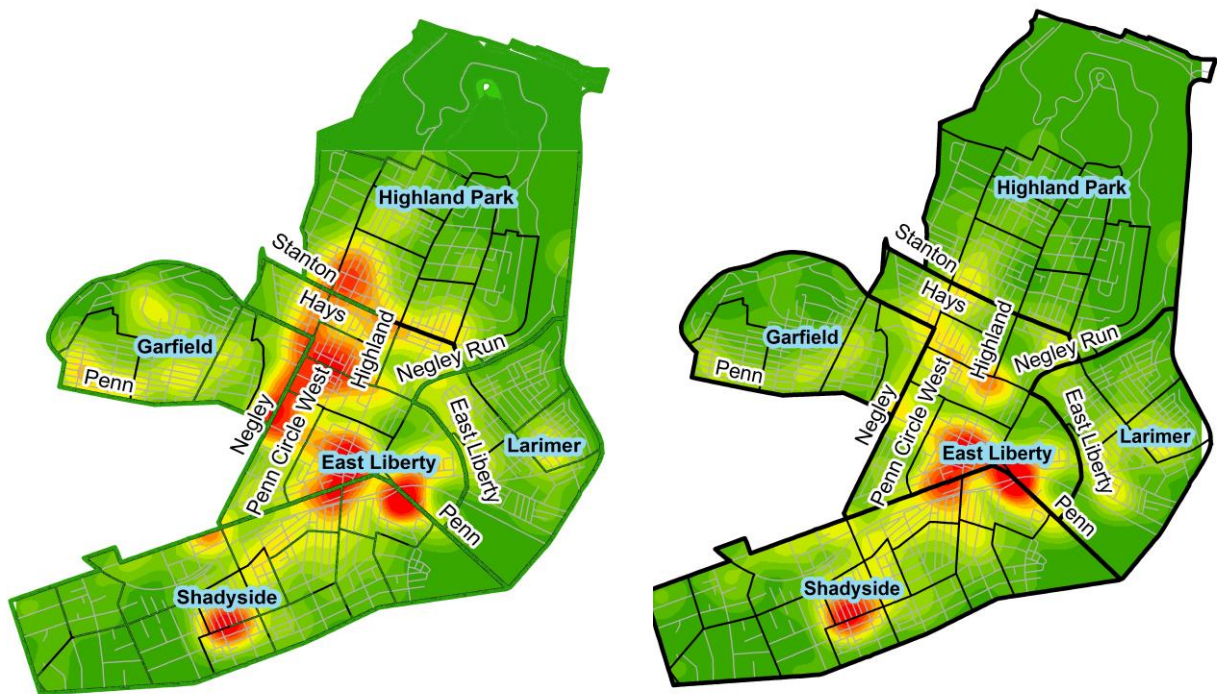
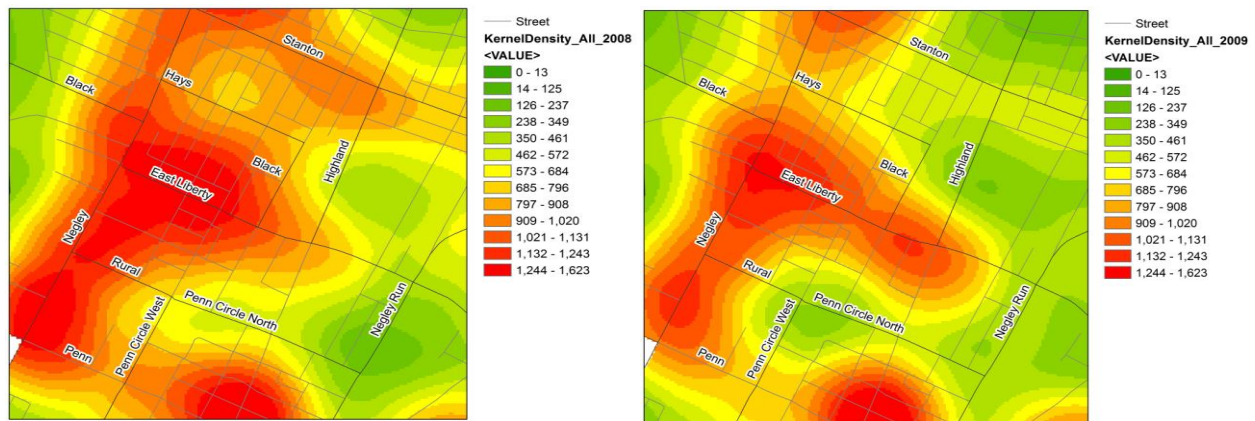


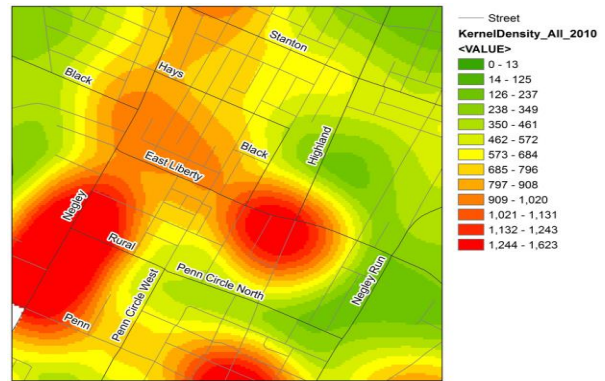
Figure 4a-b: 2008 (left) and 2012 (right) crime heat maps

The color coding for any one area is chosen relative to other areas and it is decided by comparing its value to the mean across the total geographical area mapped – an area approximately 3.5 square miles for the neighborhood.

We carried out a simple comparative analysis by eyeballing the heat map for the neighborhoods in 2008 compared to 2012. This allows us a panoramic view of East Liberty and the surrounding neighborhoods. The areas showing up as the red blobs for both years are the persistent, chronic hot spots and they represent the commercial district for both East Liberty and Shadyside. The reader cannot but observe the radical transformation that occurred in the residential part of East Liberty with the five year period.



The crime data came from the Pittsburgh Police department and the data was geocoded using US Streets Geocode service provided by ArcGIS online. Key arguments for the crime heat maps include a cell size of 20 ft.; a search radius of 300 ft or approximately the length of a block; an area unit of one square kilometer or 0.38 square mile; a kernel density value measured by the number of crime per square mile and a classification method based on the mean and the standard deviation with 1/3 standard deviation around the mean as the interval size. As can be seen from the legend, the classification is uniform for all the heat maps. This allows for a multi-year comparison and places all the years on an even keel.



We continue to shed more light on the residential area of East Liberty and ELDI's strategy by mapping the crime data for all crime over the five year period using heat maps specific to East Liberty. Figure 5a shows the crime hot spots in East Liberty in 2008 and subsequent figures in Figure 5 capture the hot spots in later years. Except for a reversal in the crime situation observed from 2009

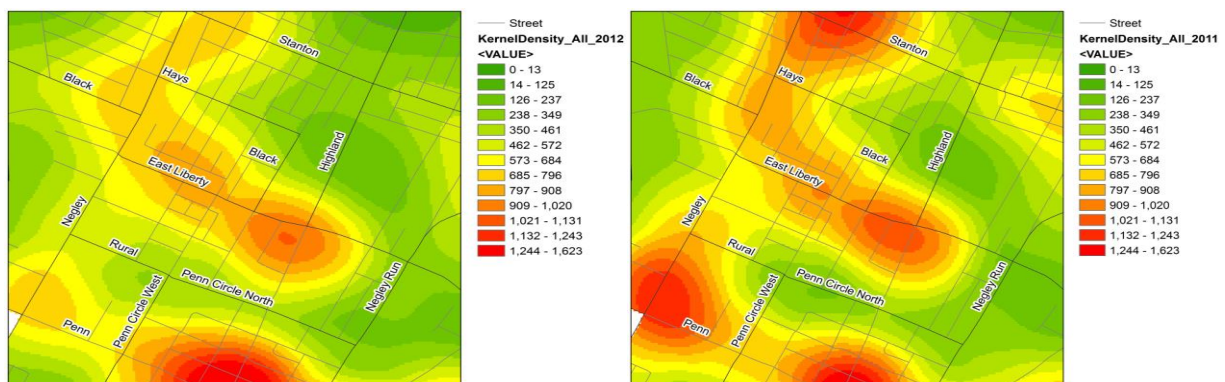


Figure 4a-e: Heat maps with East Liberty's hot spots arranged clockwise with 2008 on the top left corner.



to 2010, the rate of decrease in crime incidence has been nothing but spectacular.

The worsening of the crime situation from 2009 to 2010 was brought about by a slumlord who anticipated being bought out and thus, ramped up his occupancy rate with nuisance tenants in order to get some bargaining leverage. The property in question is located around the 300 block of Negley Avenue. This property was bought by ELDI. After carrying out due diligence with regards to screening potential tenants and putting an effective property manager in place, crime occurrence declined appreciably as evident in the 2011 crime heat map. The decline was sustained all through 2012 with corresponding decrease observed all through East Liberty. The only area that proved to be a persistent, chronic hot spot is the red blob at the center bottom which represents East Liberty's commercial district.

We wrap up this section by focusing on several hot spots and showing the correlation between the decline in crime rates and the increase in the number of properties acquired by ELDI in or around these hot spots. This is done by recreating the maps in Figure 4, with a focus on the hot spots and superimposing ELDI property acquisition on the maps. The properties acquired are represented by black boxes for properties purchased before the year shown on the map and blue boxes for those purchased the same year as the one shown on the map.

One of the hot spots is the 300 block of North Negley Ave and the other is the 500-700 block of Euclid Ave. These two spots have different characteristics. In 2008, the 300 block of North Negley

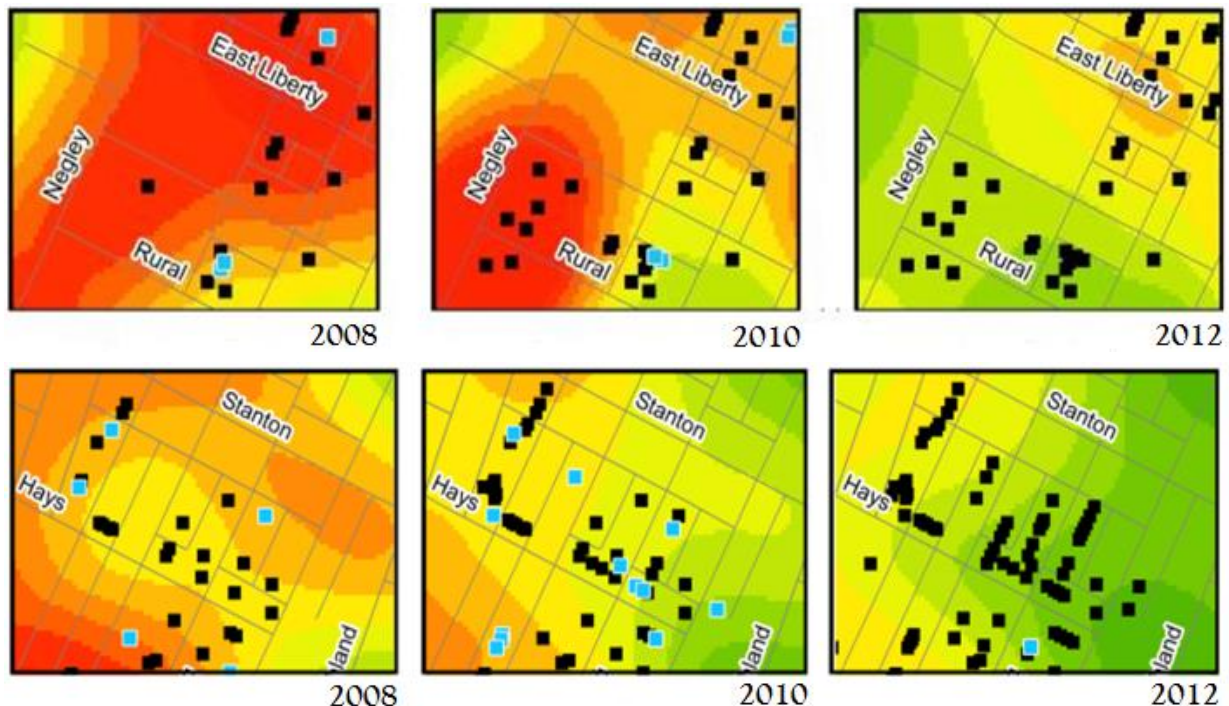


Figure 5a-b: Heat maps showing the correlation between crime trend and ELDI property acquisitions

was a crime hot spot while the 500-700 blocks of Euclid, St Clair and Mellon Street, though in a tolerable state has some hot spots in close proximity to it. Crime incidences plummet in both spots

over the five year period tracked in our analysis but what is more insightful are the approaches used to achieve these outcomes.

The properties at Negley include the 300 block of Negley and the 500-800 blocks of Negley. The properties at the 300 block are large apartment buildings between Rural and Rippey St. that are conventionally financed while the properties at the 500-800 blocks include properties financed using LIHTC. The organization has made a conscious effort to have a portfolio of buildings that are architecturally inconspicuous, maintained in a high quality manner, structurally less dense by using scattered sites and blends well with the neighborhood style that is typical of East Liberty. In addition, effective property managers are recruited and empowered to evict nuisance tenants. However, they are also encouraged to establish positive rapport with tenants by being on-ground and at times, helping them access supportive service programs. The benefits created by ELDI go beyond their properties. Spillover effects are noticeable in properties nearby either in terms of the general ambience, in improved social informal controls or by virtue of the extra policing provided by uniformed off-duty police officers.

In contrast to the properties on North Negley Avenue, the buildings at the 500 - 700 blocks of Euclid and adjacent streets are single family homes. The worst slum apartment buildings on these blocks were single family homes converted into two and three unit apartments. ELDI purchased these properties and several were converted into high-quality affordable rental using LIHTC. The balance was converted into single family homes and put on the market. The proximity to Highland Park was the selling strategy for the homes put on the market with the investment serving two purposes. For one, safety improved appreciably within the vicinity after they were purchased for the obvious reason that an individual holding a quarter of a million dollar mortgage is not willing to put up with a nuisance tenant who lives couple of doors down the street. Secondly, the properties provided enough critical mass to drive up the comparable sales data and provided the impetus to get flippers interested in the neighborhood.

#### *Property Prices*

The positive outcomes identified are not limited to crime reduction as mentioned above. It is inevitable that there will be increased demand for properties, either to buy or rent, in neighborhoods that are relatively safe and thriving given that safety is a precondition for market demand for housing. This increased demand ultimately translates to higher property prices or rental rates. We have provided some analysis in this respect using data from RealSTATs. The population of the housing sales data we used was limited to only sales under consideration. These are arms-length transactions with unrelated parties and where a state stamp of 1% of the sale price is listed on the deed. Excluded are family transactions where the parties are related and no state stamp tax is paid; affidavit, where the state stamp is not 1% of the sales listed on the deed and sheriff sales that include foreclosures and tax delinquent sales.

The property types considered are both old and new construction for detached, single family houses; condominiums, town houses and apartment units, duplexes/triplexes and row houses excluding properties with four units or more. In addition, to ensure comparability with regards to the quality of the properties sold, we ignored all sales where the value of the transaction is less than \$40,000.

Property prices in nominal dollars were tracked from 2006 to August 2013 for five neighborhoods – East Liberty, East Hills, Homewood, Highland Park and Garfield. A decision was made to merge data

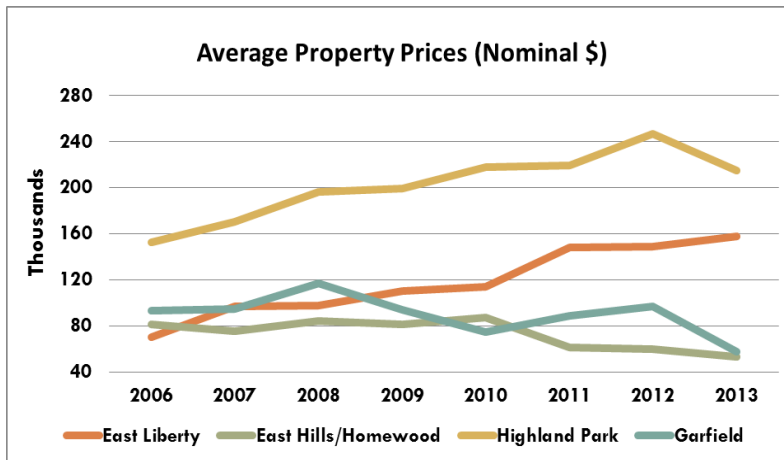


Figure 7a: Average property prices for selected neighborhoods

from East Hills and Homewood given their comparable characteristics, proximity and the small data size from these neighborhoods.

Figure 7a shows the nominal average sales price for each neighborhood from 2006 to 2013<sup>13</sup>. Of the neighborhoods covered, East Liberty has the

lowest average sales price in 2006. However, it is the only

neighborhood that has reported consistent year on year appreciation in property prices. Within the eight year window, property owners in East Hills/Homewood and Garfield actually experienced depreciation in the value of their properties.

Figure 7b shows this in a slightly different manner. The figure shows the appreciation or depreciation in property prices measured relative to 2006 values. With 2006 as the base year, a positive percentage shows that on average, property prices have appreciated and the magnitude reflects the degree of the increase in property prices. To put this in perspective, assume two individuals with \$70,000 mortgage loan in 2006 with one buying in East Liberty and the other in Garfield. The individual who bought in East Liberty would have experienced, on average, a 125% increase in the value of her property compared to a 40% decrease for the individual who bought a property in

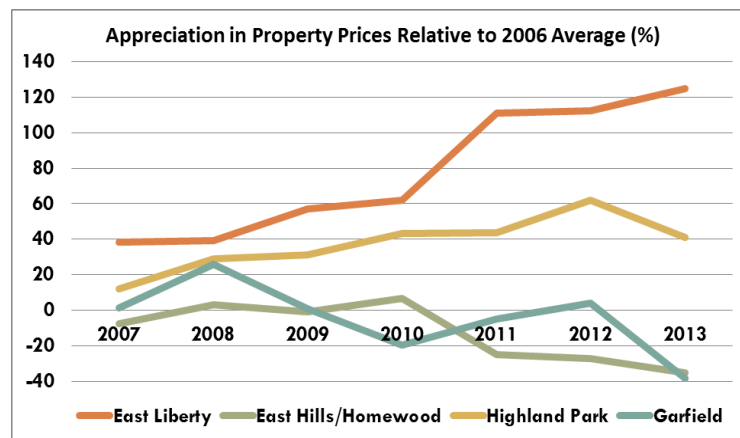


Figure 7b: Appreciation in property prices relative to 2006 average

<sup>13</sup> 2013 figures are only partial. It covers only the first 8 months of the year.

Garfield. This represents a net difference in equity of \$115,000 between the two individuals.

What is noteworthy is that this transformation was achieved in such a manner that fidelity to ELDI's primary objective of having a mixed income neighborhood was not compromised. Median income in nominal dollars rose marginally from \$18,778 in 1999 and \$22,958 in 2009<sup>14</sup> and in actuality witnessed a decline in real terms within this period. It is also pertinent that even though median income stagnated, the ratio of owner occupied to renter occupied houses increased slightly from 17.7: 82.3 in 1999 to 21.5: 78.5 in 2009 even in an environment characterized by rising property prices. Compared to 2000, 2010 figures show a marginal change in the neighborhood's racial composition – the percentage of Whites increased from 21.5 in 2000 to 25% in 2010 while that of African Americans decreased from 72.5 to 68% within the same period.

### Policy Issues and Implications of Findings

We have demonstrated the appreciable decrease in crime incidents and within the same time frame, an increase in property prices. The combination of the goodwill and social capital generated by ELDI and a series of hot spot intervention has been able to create a strategy that led to an appreciable reduction in crime. In addition, the upward trend in property prices picked up around 2010 and to a very large extent, was driven by the homes put up for sale by ELDI on Euclid Avenue. The properties drove up the comparable sales data and spurred housing market participants to price in the expectations with regards to future property prices.

With a decreasing crime rate and significant private development following ELDI's lead, there are concerns that low income families will be priced out of East Liberty. This is not entirely unfounded given that safer neighborhoods are generally less affordable as shown in the hypothetical diagram in Figure 7. At the frontier represented by the solid curve, a safer neighborhood could only be achieved by sacrificing affordability and vice – versa. The only way by which more of both could be achieved or more of one without compromising on the other is by pushing out the frontier as shown to the right. ELDI has been able to do this by using a deliberate and purposeful strategy often backed by soft fund; primary among these being LIHTC.

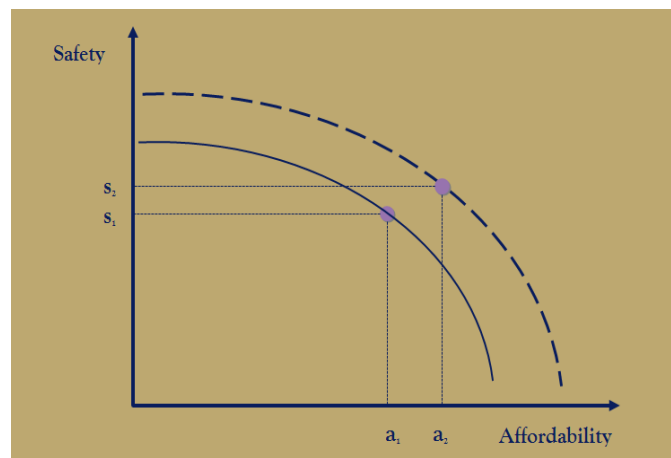


Figure 8: Hypothetical Safety Affordability frontier

<sup>14</sup> Figures were obtained from the PGHSNAP 2010 Raw Census data by Neighborhood accessible at [https://docs.google.com/spreadsheet/cc?key=0Ag0xdSSLPcUHdEo0STlkRVBpcVZEcUtwTG9wWjJTd2c&usp=drive\\_web#gid=0](https://docs.google.com/spreadsheet/cc?key=0Ag0xdSSLPcUHdEo0STlkRVBpcVZEcUtwTG9wWjJTd2c&usp=drive_web#gid=0)

For ELDI to have the capacity to keep pushing out this frontier, it is imperative that some form of assistance is provided to the organization. The argument is even more compelling when one examines the enormous benefits, either dollar dominated or otherwise, generated by ELDI but not appropriated by them. The increase in property prices with some property owners experiencing a six digit increase in the value of their property is an example of the benefit created by ELDI that does not accrue to the organization.

In addition, there are significant development costs incurred in acquiring a slumlord property. For most of these properties, the units need significant work to be viable and the present market could not yet justify the development cost. Consequently, the only economically viable method to renovating them to a safe and habitable condition is through the use of programs like LIHTC.

Finally, we would like to address the increased cost of maintaining fidelity to ELDI's core mission. It could be argued that ELDI has been a victim of its own success. Increased demand for rental properties within the neighborhood is driving rental rates up, thus increasing the opportunity cost to ELDI of designating rental units for low income families. Given the difference between social and private benefit and the changing cost structure driven in part by increased rental rates, the number of affordable rental units that the market will provide, left to its own devices, will be less compared to what is socially optimal. ELDI is uniquely placed to addresses this deficit and again, this point underscores the need to afford the organization access to soft funds like LIHTC.