

Lessons from OpenNeighborhood/
ReVisioning Kelley's Corner:
An Experiment in Public Participation

A Report to the Town of Acton

By

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Introduction

What exactly is so bad about the public hearing? Critics have studied and written extensively about the trouble with a one-way format (Arnstein 1969; Innes 2000) and a structure that fails to engage (Innes 2000). The literature on public participation is rich in showing alternative arrangements that provide for dialogue (Forester 2000; Dryzek 1990), give citizens hands-on experiences (Al-Kodmany 2000), and help citizens feel empowered (Chavis and Wandersman 1990). Mostly implicitly, these alternative literatures argue that citizens do not all learn in the same way. In an experiment in public participation, the OpenNeighborhood team found that it was an atmosphere where a lot of different activities – akin to a carnival, which generated the most meaningful participation.

This report begins with a brief review of the big ideas and theories in public participation, setting up how this project sought to make a contribution to that literature. We next describe how we conducted the experiment in Kelley's Corner and what the results were. Lastly, we present some preliminary conclusions and recommendations to the Town of Acton's Planning Department, stemming from this research.

What we know about public participation

For much of U.S. history, government decision-making lacked any meaningful public deliberation, instead relying on democratically elected political leaders to represent the interests of their constituents. In the 1950s and 1960s, leaders of the Civil Rights Movement and the burgeoning Environmental Movement found fault with this age-old government decision-making process (Krueckeberg 1983; Hall 2000). They argued for greater direct public participation in this process – giving people greater say over how their representative government acts. The 1954 Urban Renewal Program was the first federal program to mandate public participation and scores of others have followed since. Within the field of planning, Sherry Arnstein's 1969 "A Ladder of Citizen Participation" was the definitive statement on the matter. In the article, Arnstein showed how even with the introduction of new federal and state laws requiring public participation in government decision-making, most of that participation was low on a theoretical ladder of meaningful participation. She called for greater and greater levels of government power-sharing with the people on higher and higher rungs of her ladder, from "non-participation", to "tokenism", to "citizen control" at the top.

The response to Arnstein's work was so profound that even now, forty years later, the idea is central in graduate urban planning curricula, and mastery of the concept is necessary to pass the AICP exam (Stein 2004; LeGates and Stout 2003). In practice, government agencies and planners today embrace public participation widely due to Arnstein's work as well as the work of others known as equity planners (Forester 1989; Clavel 1984; Krumholz and Clavel 1994, among others). Some scholars have described participation broadly as a requirement of agencies to inform citizens of agency actions, to receive input, and to invite consultation (Burke 1979; Godschalk and Mills 1966; Brody, Godschalk, and Burby 2003).

Traditional public participation can be categorized in four ways: public hearings, in-person charettes, in-person computer-assisted workshops, and correspondence

participation. Below we review each briefly and discuss the extent to which each meet common planning goals of fairness, equity, and effectiveness (goals articulated by the American Institute of Certified Planners Code of Ethics).

The public hearing is the typical format for most public participation and is characterized by its rigid format and lack of dialogue. The public hearing has been shown to be effective in building community support and trust for new development projects (Brody, Godschalk, and Burby 2003) but its greatest weakness is its one-way nature, its very absence of deliberative elements. The apparent neutrality presented by government officials in a banal hearing can be seen as equitable, but primarily in that it provides very limited access to all citizens. Public hearings typically fail to meaningfully engage citizens in the affairs of a community and are often emblematic of Arnstein's "tokenism".

In-person charettes or workshops can vary widely, but have as a defining characteristic a physical space where representatives of relevant government agencies, property owners or developers, and community groups come together with citizens under the facilitation of professional planners or architects (Lennertz and Lutzenhiser 2006). The aim of charettes vary, as well; they may be intended to gather public input on a new development project or to develop design guidelines for a new overlay district. In a typical charette, the facilitators educate the public about the context of a project and in some cases, its intimate details. Then, the lay public is invited to draw or sketch their ideas about their neighborhood or about a new project on paper and professional architects, planners, and designers assist in re-articulating those drawings in a clearer manner – essentially rendering the non-professional ideas of the public in a professional quality. The end result of many charettes is the production of a report synthesizing the graphic and written ideas of the public; however, this report is sometimes but not always included in the official planning and development process resulting in changes to the built environment (Lennertz and Lutzenhiser 2006). The key benefits of the charette is that in-person, intimate, social capital building opportunities of bringing people together to talk about their common challenges. The charette can be a key vehicle in advancing the ideals of a communicative planning model, as advocated by Healey (1996) and others. Among the weaknesses of charettes is that they can be very time consuming. Charettes can last an entire weekend, and some go for several weekends. That time commitment means that very few citizens can be actively involved, in most cases the numbers are in the dozens for a typical neighborhood of thousands of residents. Another important weakness of the charette is the power imbalance that occurs in a physical space when highly trained facilitators dictate the rules of engagement and control information, threatening to undermine the charette's effectiveness as a means to advance communicative planning (Young 2000; Dryzek 1990; Gordon & Koo 2008). Ordinary citizens often feel disempowered and their opinions and attitudes may not fit nicely into the professional discourse of a charette.

Computer-assisted workshops are a digital enhancement over the traditional charette, by introducing computers into the physical place of participation. The computers can be used for a number of participation strategies, foremost of which is to collect information anonymously and quickly – often in the form of an instant poll among workshop participants. Neighborhood America pioneered these workshops in the late 1990s, using the technique in their workshops surrounding the reuse of the World Trade

Center site in New York City after September 11, 2001 (Wyatt 2002). For those who may have felt disempowered in a traditional charette, the anonymity offered by the computers can be beneficial, but for others the technology can make them even more reluctant to engage with a planning process.

The fourth category of participation, correspondence, is based on a one-way flow of information from citizen to government agency, but not located in a physical space. The predominant form of such correspondence participation is through mail, phone, and Internet surveys of citizens. Survey questions might ask citizens if they support a new library in town or whether they think there is a need for more restaurants in their neighborhood. This strategy for participation can be quite inexpensive and can yield large numbers of responses (if properly executed). The weakness of correspondence participation is that it is not a dialogue and does not allow for a meaningful back-and-forth between a citizen and other citizens, planners, developers, or other officials.

This rich and diverse literature contains a gaping hole which our project sought to fill. There has been no empirical research to study how the emerging digital technologies allow for these categories to be bended and melded together, allowing an immersive experience that is part public hearing, part correspondence participation, and part charette.

Participatory mapping is seen by some as a way to begin to push the boundaries of technology to solve some of the big problems of public participation. Pettit, Cartwright, and Berry's (2006) surveys "revealed that overwhelmingly the participants feel that members of the public struggle to turn 2D maps and plans into 3D mental images" (Pettit, 3). For citizens to participate further, they need to move beyond words and 2D maps/plans and towards a form of participation that allows, encourages, and includes 3D mental images. In a working paper, Gordon, Hollander, and Schirra (2010) have postulated that such an Immersive Planning practice can address some of the fundamental weaknesses of conventional public participation. This report details how we tested the effectiveness of this Immersive Planning model to improve public participation around redevelopment of the Kelley's Corner neighborhood in Acton.

The Experiment in Kelley's Corner – Methods Used

From the end of October through the end of November 2009, the Tufts team¹ worked in close coordination with officials in the Town of Acton to run the OpenNeighborhood Project. The initiative had several distinct components, which all converged at a public event at the end of the month-long experiment. Each component was designed to connect with citizens in different ways and elicit input from them in different ways. The first was a web-based virtual model of Kelley's Corner hosted in Second Life. The model allowed users to explore the existing conditions of Kelley's Corner and fly over the neighborhood, while at the same time interacting with other Acton citizens who may also be logged onto the site simultaneously (see Figures 1 and 2). After exploring the virtual model, users were invited to visit the Village Design Center, a

¹ The Tufts team consisted of Tufts professor Justin Hollander and students Amanda Garfield, Andy Likuski, Becky Gallagher, and Pete Kane.

futuristic looking structure placed at the edge of the neighborhood by the OpenNeighborhood team.²

In the Village Design Center, users were introduced to some history of Kelley's Corner, current demographics, and urban planning context. After passing through the history section (the Village Design Center was laid out like a museum, in order to guide users from one section to another, see Figure 3), users were asked to provide input on the current conditions in Kelley's Corner using a Google Map crowd-source interface. Here, users could highlight issues such as if an intersection is dangerous, if the dumpster is always overflowing, or if it is hard to bicycle through an area. Next, users were directed to a kiosk where they were given a plan view of Kelley's Corner and invited to redesign the neighborhood using new structures, greenery, roads, and additional paving.

To get the word out about OpenNeighborhood, several low-cost avenues were explored. Emails were sent to all Town of Acton officials and volunteers, and to the major parent organizations through the public schools. The local Acton newspaper covered the event with an article right before the launch and right before the culminating event, also posting the articles on their website. The initiative was also advertised through Tufts University websites and Twitter feeds. In promoting the culminating event, flyers were posted throughout town, as well.

Outreach was accomplished in several ways, the first through weekly open house demonstrations of the website – two hours every Thursday evening throughout the project. These open houses were staffed by Acton volunteers and Tufts graduate students who walked people through the use of the website and also introduced a second component of the project: hands-on analog designs. In each open house, 11"x 17" plan view paper versions of the Kelley's Corner neighborhood were made available as a kit with various arts and crafts materials (including stickers, pom-poms, and crayons). Participants were asked to re-design Kelley's Corner using the supplies. Some citizens used the kit during the open house and submitted their vision then, others took them home and later submitted their visions to Town of Acton officials.

Another key element of the outreach was a determined strategy of connecting this project with key stakeholders within the community. Several of these stakeholders were able to contribute institutional and other support. Denise LeBlanc, Educational Director of the Discovery Museums, Karen Herther, Co-Chair of Acton-Boxborough Pip (Parent Involvement Project), and Ann Sussman, R.A., who applied for and received a grant from the Massachusetts Cultural Council which paid for the OpenNeighborhood arts + crafts kits for residents to build their own colorful 2D model of the corner (Ms. Sussman also designed these kits).

Finally, unlike a traditional charrette, or most traditional planning practices, for that matter, OpenNeighborhood made direct and specific outreach to youth - even working with a High School faculty liaison to ensure that teens who helped out at any OpenNeighborhood public events would receive community service credit for their efforts. A dozen teens helped run the OpenNeighborhood public events as well as contributed their own Kelley's Corner design boards. In addition, OpenNeighborhood had a presence at a local street fair, Oktoberfest, where children were invited to build

² The Village Design Center is not a building that currently exists in the real Kelley's Corner, but rather a device employed to organize citizen participation.

their own versions of a future Kelley's Corner using edible legos. This proved quite attention-getting and helped draw parents into an activity they might have otherwise ignored.

At the final culminating event, Tufts graduate students and Town of Acton officials hosted a day-long session in a roughly 1,000 square foot multi-purpose room in Town Hall (see Figure 4 and 5). At the event, several demonstrations of the website and the 11" x 17" kits were available, and a large-scale (1:20) plan view of the neighborhood was laid on the floor accompanied by arts and crafts materials to build large-scale models of buildings. An analog for the crowd-source Google Map was also available in the form of an easel erected in the middle of the room where citizens could write their ideas about the neighborhood on Post-it notes.

While not tied to collecting public input, the OpenNeighborhood team also arranged for additional installations to better inform residents about the neighborhood. The first was a series of black-and-white photographs taken by local high school students documenting current conditions in Kelley's Corner. The second was a local science museum display of interactive information about hydrological conditions in the neighborhood developed by the Acton Health Department and interpreted by the Discovery Museum. Lastly, old Town of Acton plans for Kelley's Corner were made available on a table for review.³

Figure 1: Plan of the 16-acre virtual Kelley's Corner study area

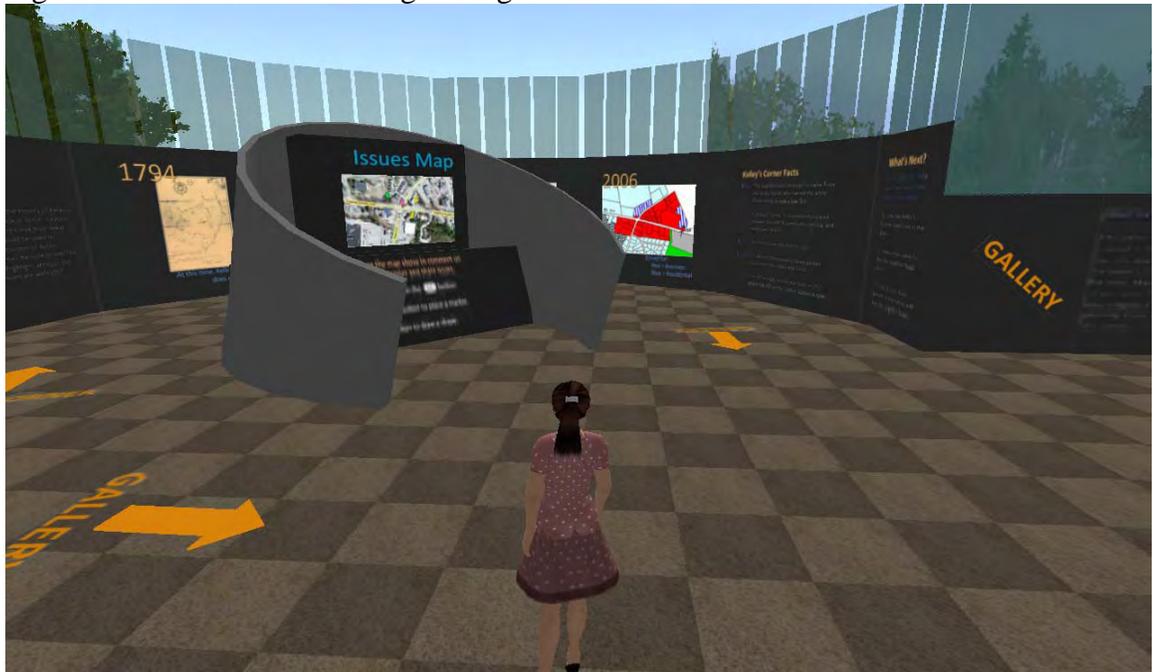


³ Most unusual was a plan for Kelley's Corner devised by an Acton 5th grade class from 1981.

Figure 2: View of the former Meineke Building in virtual Kelley's Corner



Figure 3: View inside the Village Design Center



In order to understand resident perspectives on Kelley's Corner we analyzed four pieces of data: 1) the website, 2) surveys administered at the end of the culminating event,

and 3) a visual analysis of the plans, and 4) Post-it Notes that residents affixed to a large-scale map of Kelley's Corner at several open house events. To examine the website, we used Google Analytics to track the number of users, where they logged in from, how long they stayed, and – when available – which website directed them to the website. For studying the culminating event, we administered a survey to each adult member of a household in attendance at the event.

The survey included ten questions about their experience at the event, which technologies they were interested in and how they would evaluate the event. These data were analyzed using correlation analyses and cross-tabulations to understand the relationship between the kinds of activities each person did and what their overall learning and empowerment experience was.

We attempted to measure the quality of the experience each citizen had in order to draw conclusions about the sensory experiences offered. We conceptualized quality of experience for this study by examining the dimensions of public participation experience.

How much does a citizen enjoy an experience and would they like to repeat that experience? This first dimension is captured by the question “Would you participate in this type of event again in Acton?” The next dimension touches on a more cerebral or intellectual experience for the user; we were not only concerned about whether she enjoyed this or that, but instead whether she learned something? Here, we ask “Did you learn something important today?”

The final dimension is that of empowerment, in what way this participation activity makes you feel empowered; and, in spite of enjoyment or learning, have you been part of a process and done something important? We asked the question: “Did participating today help you feel your voice was heard by Town officials?”

Figure 4: Culminating event, with Post-it Note Board in foreground



Figure 5: Culminating event, with participants using Second Life application with the help of Tufts graduate students and Acton-Boxborough high school students.



The third step in our investigation involved a visual analysis of both the digital and analog plans generated. We devised a rubric to assess where and what features were added or taken from the neighborhood, what pedestrian and automobile changes were made, how the plan altered the character of the built environment, whether any particular urban design or planning innovation was employed, and lastly, whether the design created a focus in any particular zone of the neighborhood. Four coders split the plans in half and each plan was scored by two coders. The team of two coders compared their notes and, where differences occurred, discussed those differences and reached agreement or compromise on a code. The codes were then examined using correlation analysis and ordinary least squares regression to detect patterns in the various plans.

Lastly, we looked closely at the Post-It Notes that residents affixed to a large-scale map. We categorized each comment and then examined those comments against the core values generated in the visual analysis.

The Experiment in Kelley's Corner – Results

i. Web access

During the 30 day open access period of the OpenNeighborhood project, a total of 258 unique users visited the main website. The average users spent just under four

minutes on the site, visiting five different web pages. Including repeat users, a grand total of 1,873 page views occurred.

Most users came from the Greater Boston area, though 49 people connected to the site from other U.S. states outside of Massachusetts and eleven logged in from abroad. Within the Greater Boston area, just over one-third of visits were from within the Town of Acton, suggesting that many Acton residents connected to the site from their workplace within the commuter-shed.

While only a modicum of effort and even fewer financial resources were invested in marketing the project and the website, a link on the Town of Acton's website did draw in 50 users, where Tufts operated Twitter feeds and websites brought in another 22 users. The remaining users came to the site through Google searches or by directly typing the website address into their web browser.

ii. Visual analysis

During the course of the one-month project, a total of 48 analog and 10 digital plans were collected. The plans had a distinctive emphasis on many of the very themes advanced by Acton's planning department: walkability, built character near the street, gathering places, parks and recreational areas, and a focus in the center of the neighborhood (see Table 1). More than half of the plans (n=34) included new park uses and nearly 60% added green surfaces to the neighborhood (n=39). Nearly as much support was expressed in the plans for pedestrian access, with one-third of all plans featuring new paths, high numbers of plans focusing on other pedestrian amenities like new crosswalks (n=9), sidewalks (n=9), and over/under passes (n=12).

Table 1: Summary of Visual Analysis

Characteristic	Number	%
Add Bike Paths	5	7.6
Add Crosswalks	9	13.6
Add Sidewalks	9	13.6
Add New Path	22	33.3
Add New Pass (over/under roads)	12	18.2
Add New Residential		
North	4	6.1
South	4	6.1
East	5	7.6
West	3	4.5
Corner	1	1.5
Add New Commercial		
North	10	15.2
South	19	28.8
East	19	28.8
West	15	22.7
Corner	20	30.3
Add Recreational Uses (Parks)	34	51.5
Add Recreational Uses (Non-Parks)	16	24.2
Buildings Built Near Street	28	42.4
Buildings Set-Back From Street	5	7.6
Public Gathering Spaces Created	15	22.7
Add Green Surfaces	39	59.1
Add Paved Surfaces	7	10.6
Add Water Features	15	22.7
Create Focus Area		
North	0	0
South	6	9.1
East	5	6
West	1	1.5
Corner	19	28.8

New commercial development was very popular in the plans, with a fairly even distribution on new commercial uses throughout the neighborhood. Less popular were new residential uses, where only a handful of plans envisioned new homes.

A near majority of the plans placed new structures near the street (n=28) and fifteen plans created public gathering spaces. Thirty-one of plans used their design schemes to create a focus area within Kelley's Corner, with the preponderance of those aiming their focus on the neighborhood's major corner (n=19).

More interesting than these descriptive results were the findings from cross-tabulations and correlation analysis among the variables. Whether the plan was analog or digital made little difference in the substance of the vision presented, with just a few exceptions. The first was that buildings were less likely to be built on the street for the digital versions and the second is that digital versions were less likely to have walking paths. Both could be explained by the fact that those characteristics were difficult to produce in the digital version. Another exception is the appearance of surface water features, which were not part of the suite of tools available to users in the digital version, and could be expected to not be present in the digital plans.

Among the plans examined, there were detectable patterns of clustering among characteristics (see Table 1). Adding bike paths was correlated with adding pedestrian amenities and structures placed near the street. Gathering areas were also highly correlated with pedestrian amenities, new parks, structures near the street, and greenery added. There was also a discernable correlation among those plans that focused around the corner and those that added bike paths, pedestrian amenities, residential uses, structures near the street, and paved surfaces. Such patterns appear to confirm the influence that New Urbanist design and planning principles had on the users, though such confirmation is only tenuous.

iii. Values Identified

Through a series of in-person meetings, the OpenNeighborhood faculty and student team discussed the common values expressed in the plans (as broken-down by the visual analysis), and agree to work with a set of core values displayed in Table 2. These were used to develop criteria for selection of three exemplary plans which we created 3-D models of in SketchUp and as the basis for the rebuilt Kelley's Corner model in Second Life. The new Kelley's Corner model expresses, physically, the core values elicited through both the visual analysis and the below Post-it Note analysis.

Table 2: Core Values Which Emerged From Experiment

- Walkable and pedestrian oriented (make pedestrian connections to surrounding neighborhoods)
- Re-greening of surfaces
- No box stores with large set backs, instead human-scaled structures near street
- Commercial uses that support a vital pedestrian street life
- Keep Bowladrome
- No major expansion of residential uses (this is problematic, because in order to create vibrant public spaces and streetlife, you need people!)
- Additional Public Gathering Spaces
- Additional parks and recreational amenities
- Focus activity at the corner

iv. Post-it Notes results

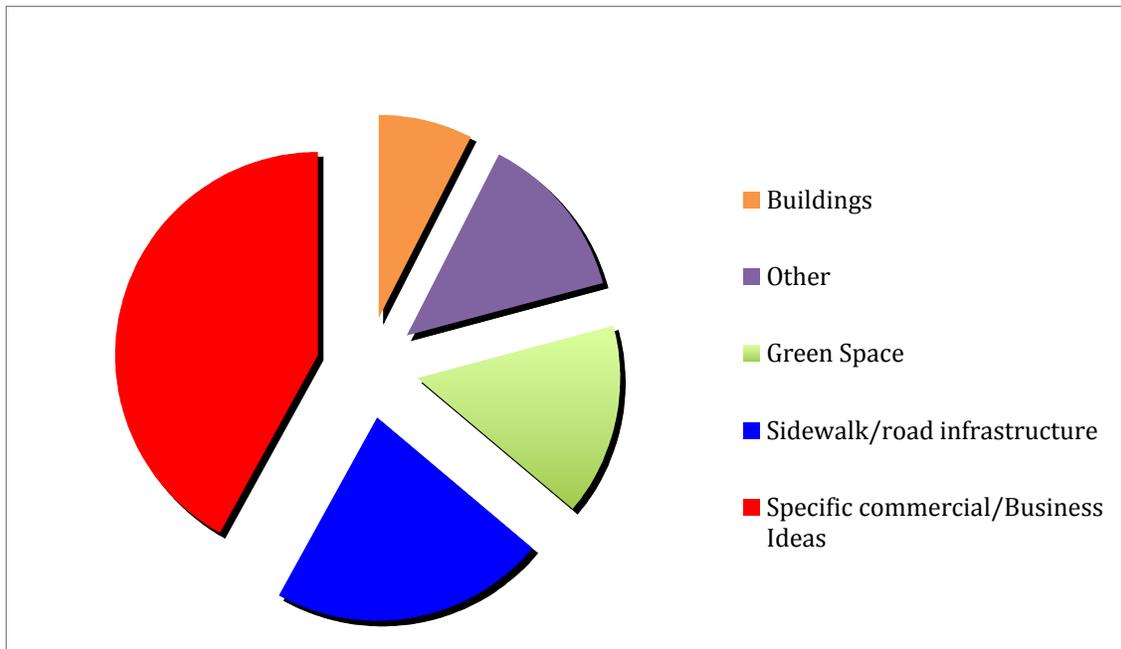
After reviewing the Post-It note comments compiled at the November culminating event, we found 105 comments covering many different concerns and ranging from specific to general. While we could view the more specific notes (e.g. “Panera Bread” or “Skateboarding Shop”) as expressions of the individual desires of participants, we feel that some of the more general requests (e.g. “make pedestrian friendly” or “plant trees”) reflect both an individual participant’s desire and his/her broader values. Introducing concepts of urban planning, Gordon et al. observe how citizens’ desires and values relate to the planning of the cities they live within: “The simple, and yet complex notion that cities are composed of people, all with their individual desires and needs, and all potentially invested in the physical growth patterns of where they live, provided a rather strong case for the art of planning” (Gordon, 1). Agreeing with this “simple and yet complex notion,” we believe that the comments written on the Post-It notes are valuable to Acton’s planning process. Later, Gordon et al. also state, “Of course, the context of planning is more complex than the immediate engagement of the public. Planners have to juggle the public’s participation with the realities of local politics, economic shifts, and the whims of developers....Immersion does not mean “getting what you want,” but instead means a deep involvement in the process with all of its political and economic complexity“ (Gordon, 25). Through these Post-It notes, the participants are commenting on aspects of the change/development they *want* to see in Kelley’s Corner. Therefore, we chose to refer to the various requests and desires presented in the Post-It notes as “comments.”

Thus, we approached our analysis with the goal of finding broad themes within the comments. While Acton and its planners cannot address every desire expressed through the Post-It notes, they can certainly consider and build from broader, overarching requests. We believe that our organization of the information will allow OpenNeighborhood to utilize it well and will allow us to return it to Acton’s residents clearly. This approach led us to first divide the comments into broad categories based

upon themes. We then went into these categories and found other categories and themes within them.

Reviewing the comments, we saw them as falling into five different categories: Buildings, Green Space, Sidewalk/Road Infrastructure, Specific Commercial/Business Ideas, and Other (see Figure 6).

Figure 6: Post-it Note Categories



We found eight Post-It notes discussing buildings. Six of these express the desire to “take down” buildings and two of these request “adding on/doing something.” Two of the “take down” comments involve eliminating “Buck’s.” On one of these notes, someone has written “mega dittos.”

Sixteen of the Post-It notes refer to green spaces. Three of these comments specifically call for the preservation of the “Redstone Garden.” Five request more parks/gardens. Six ask for more trees. Two other notes do not fall into specific categories (“add sidewalks/bike paths/trees/outdoor seating” and “bring the old streams to the surface again”).

We categorized 23 of the notes as sidewalk/road infrastructure requests. Three of these refer to pavement (in rather technical terms). Three others request specific paths. One concerns parking. Twelve deal with pedestrian concerns (five of which specifically desired “pedestrian friendly” developments). The last four discuss automobile traffic.

Creating the largest category by far, 44 notes fit into our category of commercial/business ideas. Eighteen of these are in the subcategory of Food/Dining. There are 13 requests for specific restaurants (four for Taco Bell, five for Panera, one for

Subway, one for O'Natural, two for ice cream parlors) and five more general requests relating to dining. There are 15 recreation related notes: Four to "keep/save" the bowling alley; two for gaming sites; six for physical recreation (pool and ice rink); and three for a movie theater. Of the 44 specific commercial/business requests, one was for citizen accessible art studios. Eight more fall into the subcategory of retail (toy store, Barnes and Nobles, remove Kmart, etc). Lastly, we categorized the final two comments as "Other" ("No more muffler garage," and one agreeing with getting rid of the muffler garage). One of the retail notes also mentioned this garage ("Make old muffler building into an Aeropostale").

We placed the remaining fourteen comments under the category of "other." Four of these, we could not understand due to handwriting and references that we are unfamiliar with. Five more of them expressed general ideas: "Clearly explain how we pay for all this," "Something historically consistent," "Big Business Opportunities," and "town center." Three of the "other" comments suggest improvements. The last two comments suggest new projects: "design Kelly's Corner to accommodate 'a shuttle' [handwriting unclear]" and "Build Community Center @McDonalds bldg."

The OpenNeighborhood team saw nine core-values unfold from Acton residents' input using a visual analysis of the plans generated. Looking solely at the Post-It note comments, only some of the same core-values emerged. None of the core-values directly conflict with the Post-It notes, and indeed, one can find at least one Post-It comment to support seven out the nine values (see Table 2). The nine core-values and their relations to the Post-It comments are as follows:

- 1) *Walkable and pedestrian oriented (make pedestrian connections to surrounding neighborhoods)*- Of the 23 sidewalk/ road infrastructure comments (making up approximately 22% of the total comments), twelve comments (11% of total requests) relate to pedestrian concerns. Four of these specifically use the wording "pedestrian friendly." These numbers do support the perceived value of "walkable and pedestrian oriented."
- 2) *Re-greening of surfaces*- Approximately 15% of the total comments relate to green space. While the comments in other groups often reveal a variety of interests (one note asked to remove Kmart and another asked to keep it), the "green space" comments consistently wish for gardens, parks, and trees. More than any other category, this one exhibits a shared vision, and so, it does support the core-value of re-greening surfaces.
- 3) *No box stores with large set backs, instead human-scaled structures near street*- While some comments could support this value ("Something historically consistent," "Town Center"), the value does not emerge from the Post-It note comments alone.
- 4) *Commercial uses that support a vital pedestrian street life*- Similar to the previous value, this one does not emerge out of the Post-It notes alone, but certain comments could support it. For example, "outdoor eating" and "ice cream

parlour” both suggest commercial ventures that would encourage people to purchase goods and to consume them outdoors and in sight of fellow pedestrians. The request for “European-style walk friendly intersection, place to gather sidewalks” and “Add sidewalks, bike paths, trees, outdoor seating” also indicate a desire for a “vital pedestrian street life.” Lastly, the request for a “town center” supports this same value.

5) *Keep Bowladrome*- Four of the total comments (3.8% of total requests) expressed an interest in keeping the Bowladrome. While this comment’s repetition leads one to see it as a clear value within the Post-It note responses, there are also four Post-It note comments for Taco Bell (again, 4%) and five for Panera (5% of total requests). Thus, based upon the Post-It notes alone, the four requests for keeping the Bowladrome do not indicate this request to be a more significant core-value than, say, the building of a Taco Bell.

6) *No major expansion of residential uses*- This core-value does not emerge from the Post-It notes.

7) *Additional public gathering spaces*- The already discussed Post-It requests for a pedestrian friendly atmosphere and for gardens/parks support this core-value. Other requests (e.g. for a community center, for a town pool, a town ice skating rink, a family recreation center, and art studios that citizens can use) also confirm this value.

8) *Additional parks and recreational amenities*- Already discussed Post-It notes promote this core value. Four requests ask for parks/gardens and an additional fifteen ask for recreational facilities. In total, such requests make up 18% of the total requests.

9) *Focus activity at the corner*- None of the Post-It note requests specifically reveal this core-value. That said, they also do not conflict with it. Perhaps the format of the poster and Post-Its led the participants to generate requests focusing on the types of activity desired instead of the geographic arrangement of such activity.

Viewing just the Post-It note requests, one clearly sees the core-values of a pedestrian friendly atmosphere, a greening of spaces, and an increase in public spaces (both outdoors in the form of parks and indoors in the form of pools, rinks, etc). Furthermore, based solely upon the Post-It requests, one might also add a valuing of inexpensive and convenient restaurants. When combined with the visual analysis, these Post-it Notes provide a broader, more robust portrait of the core values of participants in the Kelley’s Corner experiment: the nine core values stand as a fair and accurate portrayal of the values of expressed during the experiment. Further testing and re-testing of those values should be pursued in a political arena, as suggested in the recommendations section of this report.

v. Survey results

With a clear idea of both how citizens connected to the OpenNeighborhood portal and what they did there, as presented above, I now turn to an assessment which was conducted of the entire experience to those in attendance at the culminating event. A survey was administered to at least one person in all households, as they were leaving the event. In total, roughly 80 people attended the event and 53 completed the survey (there were at least two dozen children at the event but they were not asked to complete the survey).

Among those who completed the survey, a plurality had never been to an Acton planning event before (30 out of 53), suggesting that the model employed may also be successful in attracting people otherwise disinterested in local public affairs (see Table 3). But for those that did come, it was the range of activities utilized that was most striking. To begin with, 40% (n=21) respondents used the computer visualization tools, 62% (n=33) used the various paper visualization tools, and 32% used neither. That a full one-third of attendees used neither leads us to the next key point. When asked which of the numerous activities presented at the culminating event appealed to them (with multiple answers permitted), the range of activities were selected. So, for those one-third of attendees that did not participate directly in the visualization activities, a number of them clearly were engaged in other ways – responding to the imperative of designing for multiple intelligences.

As presented in Table 3, both the paper and computer activities were identified as appealing by 18 and 9 respondents, respectively. But the model/floormap was an appealing activity to five respondents, and the museum exhibit appealing to two respondents, and the photography exhibit to three more. Discussions, commenting, and other maps each were also identified as appealing by respondents – the overall carnival atmosphere where much was occurring, using multiple pathways for access, attractive in different ways to different intelligences proved to translate to a series of overall indicators of satisfaction with the event, as conceptualized in three dimensions of quality of participation: enjoyment, learning, and empowerment.

The responses to the three questions measuring the quality of participation were quite astounding. Forty-seven out of 48 (98%) of those who answered the question either strongly agreed or agreed that they would participate again in this type of event. Forty-two (79%) agreed that they learned something important at the event and 27 (60%) either strongly agreed or agreed that participating in the event helped them feel their voice would be heard by town officials.

Table 3: Descriptives Statistics of Survey Results

Survey Questions	Responses	Number	%
Have you participated in Acton Planning Events before	Yes	22	42%
	No	30	57%
	Unsure	1	2%
Did you use both the computer and paper visualization tools? (multiple answers possible)	Computer	21	40%
	Paper	33	62%
	Neither	17	32%
Which activity appealed to you the most? (multiple answers possible)	Computer	9	17%
	Paper	18	34%
	Several	4	8%
	None	2	4%
	Model/floormap	5	9%
	Discovery museum	2	4%
	Photography	3	6%
	Discussion	3	6%
	Commenting	3	6%
	Maps	3	6%
	Unanswered	8	15%
I would participate in this type again in Acton	1 = StronglyDisagree	0	0%
	2 = Disagree	0	0%
	3 = Neutral	1	2%
	4 = Agree	5	9%
	5 = Strongly Agree	42	79%
	Unanswered	4	8%
Participating today helped me feel my voice would be heard by town officials	1 = StronglyDisagree	4	8%
	2 = Disagree	0	0%
	3 = Neutral	14	26%
	4 = Agree	5	9%
	5 = Strongly Agree	22	42%
	Unanswered	8	15%
I learned something important or interesting today	Yes	42	79%
	No Answer	11	21%
If so, what?	Detailed Answer		0%
How did you hear about this event	Email	8	15%
	Library	2	4%
	Ann Sussman	12	23%
	Acton PIP	3	6%
	Mail, Letter to Residents	1	2%
	Beacon Newspaper	7	13%
	A-B Cultural Council	2	4%
	Sign, flyer	6	11%
	GreenActon	3	6%
	Word of Mouth	9	17%
	Discover STEM	1	2%
	Planning Dept, Selectmen	3	6%
	Town Website	3	6%
Would you be interested in participating in the Acton Master Planning Process in 2010?	Yes	24	45%
	No	10	19%
	Maybe	5	9%
	Unanswered	6	11%

n = 53

Cross-tabulations tested first and foremost the question of what relationship existed between the three “quality of the experience” variables and the activities that appealed to the respondent variables. Caution must always be exercised whenever using cross-tabulations with such a small sample in terms of internal validity and generalizing to the entire population,⁴ but nevertheless a few patterns that are picked up are worth further analysis.

The overall relationship between whether the participant used digital versus analog tools had no statistically significant bearing on how they judged the “quality of the experience” using the three aforementioned variables, with just one exception. Those respondents who indicated that the paper visualization activities appealed to them, were more likely to agree that they felt empowered by the activity.⁵ To further examine the power of this relationship and to control for other possible confounding variables, we ran the survey results through an Ordinary Least Squares regression, using the empowerment variable as the dependant variable and all the remaining variables collected as independent variables.

Overall, the model does a poor job of explaining the variation in the empowerment variable.⁶ Nevertheless, two independent variables emerged as statistically significant in the regression: whether the respondent did the paper visualization activities (significant at the 99% confidence level⁷) and whether the computer activities appealed to them (significant at the 90% confidence level). For both variables, the model shows that the direction of the relationship among them and the empowerment variable is positive. That is, for respondents that used the paper and for those that felt the computer activity appealed to them, they were associated with agreeing that the event was empowering.

While the sample is small and the regression model lacks strong explanatory power, these preliminary results suggest that it was not one single factor that led to the overwhelmingly positive feedback on the three dimensions of quality of participation. Rather, the results appear to support the argument that the broad range of different activities was the key feature of this effort in determining the high satisfaction levels reported.

Expressing the Values in a New Vision for Kelley's Corner

To help think through what the core values communicated in this experiment might mean for a ReVisioned Kelley's Corner, we first built three virtual models of actual plans generated in the public process which best expressed those core values (see

⁴ In a sampling sense, the entire “population” are all the attendees at the event. The sample are those attendees who completed the survey.

⁵ A Chi Square test showed an asymptomatic significance of 0.079 and a Pearson value of 8.377 (with 4 degrees of freedom). Because the empowerment variable is measured at the ordinal level, a Spearman's rho test was also calculated, again showing a statistically significant result at the 95% confidence level, with a 0.271 correlation coefficient.

⁶ Statistically speaking, the model had an R-squared of 0.388. Most well regarded social science models have R-squared of at least 0.4, but 0.7 or higher is preferable.

⁷ Significant at the 99% confidence level means that there is a 1% likelihood that systematic differences in respondents answers can be attributed to pure chance. For social science research, anything higher than 90% confidence level is worthy of further study.

Figure 9: Perspective of digitally rendered version of plan shown in Figure 7 (rendering by Pete Kane).



The 3-D rendering were also used by our designer team in approaching a new synthesized plan that best expressed the core values generated through this effort. The new plan attempts to reconcile some of the issues in Kelley's Corner with the newly expressed values. The new plan was rendered in Second Life and users can walk or fly-through the new Kelley's Corner. Screen shots of the new Kelley's Corner are presented below in Figures 10, 11, and 12). This new plan will be displayed as part of the follow-up event that our team will help host in May 2010. The hope is that this plan may serve as the basis for a discussion and debate within the Town of Acton in approaching a newly ReVisioned Kelley's Corner.

Figure 10: Plan view of new Kelley's Corner.



Figure 11: Perspective view of new Kelley's Corner.



Figure 12: Street view of new Kelley's Corner.



Conclusion

Visualization tools are emerging among different practices in public participation, and one of their major advantages over traditional methods is that visualization processes and presents complex data more accessibly for the public to understand.

This experiment in Kelley's Corner shows that the quality of participants' overall experience does not vary depending on whether they had analog or digital experiences. Instead, the carnival atmosphere generated by both digital and analog sources, along with photography exhibits, and environmental education displays resulted in widespread approbation of the public process. It is worth noting that the Massachusetts Cultural Council was equally impressed with the public process created in this experiment, as we were recognized along with the Town of Acton and the Discovery Museum with a Gold Star award for Community Cultural Programming.

While the experiment was widely successful, some important limitations are worth noting. The difficulty and inability of the digital tool to produce certain neighborhood characteristics made it hard for the public to provide input with respect to those aspects, e.g. road modifications and surface water features. This shows the necessity to realize the limitations of technologies used in digital visualization tools and the importance to offer both analog and digital activities to participants ensure collection of a wide range of input. Future projects should more deliberately build in compensation for the weaknesses of each approach. While many insights were gained through an open, transparent planning process, planning officials did not learn why residents made certain design and land use decisions. Future exercises should explicitly ask residents to explain their plans and such explanation could then be collated and analyzed by planners.

Because the analog activities were presented largely as open canvasses, while the digital tool includes built virtual models, participants are likely to provide input in a way that they are most comfortable. Thus, planners, when designing public participation activities, should provide multiple tools to capture a wide range of public input.

Although the difference between the analog and digital experiences was studied in this report through both surveys and visual analysis, only end-results and end-products of both experiences were assessed and investigated. For example, one of the major advantages of digital visualization tools, their power in interpreting and presenting complex data, was not examined and studied. Future research could be done on how to evaluate analog and digital visualization tools comprehensively. For example, to evaluate the level of empowerment, Corbett (2005) constructed a framework of four catalysts: information, process, skill, and tools. Similar framework to evaluate analog and digital experiences could be proposed to incorporate different stages of people's experience.

Future generations will be much more familiar with information technologies and tend to get more excited about using digital visualization tools. It is thus expected that digital visualization tools will play a more and more important role in public participation (Pettit 2008, p.15). Thus, we recommend future research could introduce age levels into comparison and investigate the relationship between public input and respective contributors' age level.

Many of the core-values that emerged from the Post-It note responses and the visual analysis of plans reveal a desire for an environment that encourages a sense of community. The requests for public gathering spaces, for keeping the Bowladrome, and for additional parks and recreational amenities directly relate to a desire for community spaces open for community use. Less directly, the request for "pedestrian friendly" development may also reveal a desire for stronger community. A pedestrian friendly Kelley's Corner would encourage residents to walk, and thus to mingle on the sidewalks. When in their cars, individuals go about their days in their own little bubbles, but when walking, individuals are significantly more likely to interact with others. Discussing a sense of community, Chavis and Wandersman (1990) writes, "The relationship between a sense of community and community competence (its problem-solving ability) through collective effort is reciprocal" (p. 57). Interestingly, Acton's community participation in the planning process reveals a desire for a greater sense of community. According to Chavis and Wandersman (1990), this would, in turn, create a community that is better able to participate in further community planning competently. This has the potential to set in motion a positive cycle that would create a stronger and more capable community that wants to participate in and successfully works for its own development.

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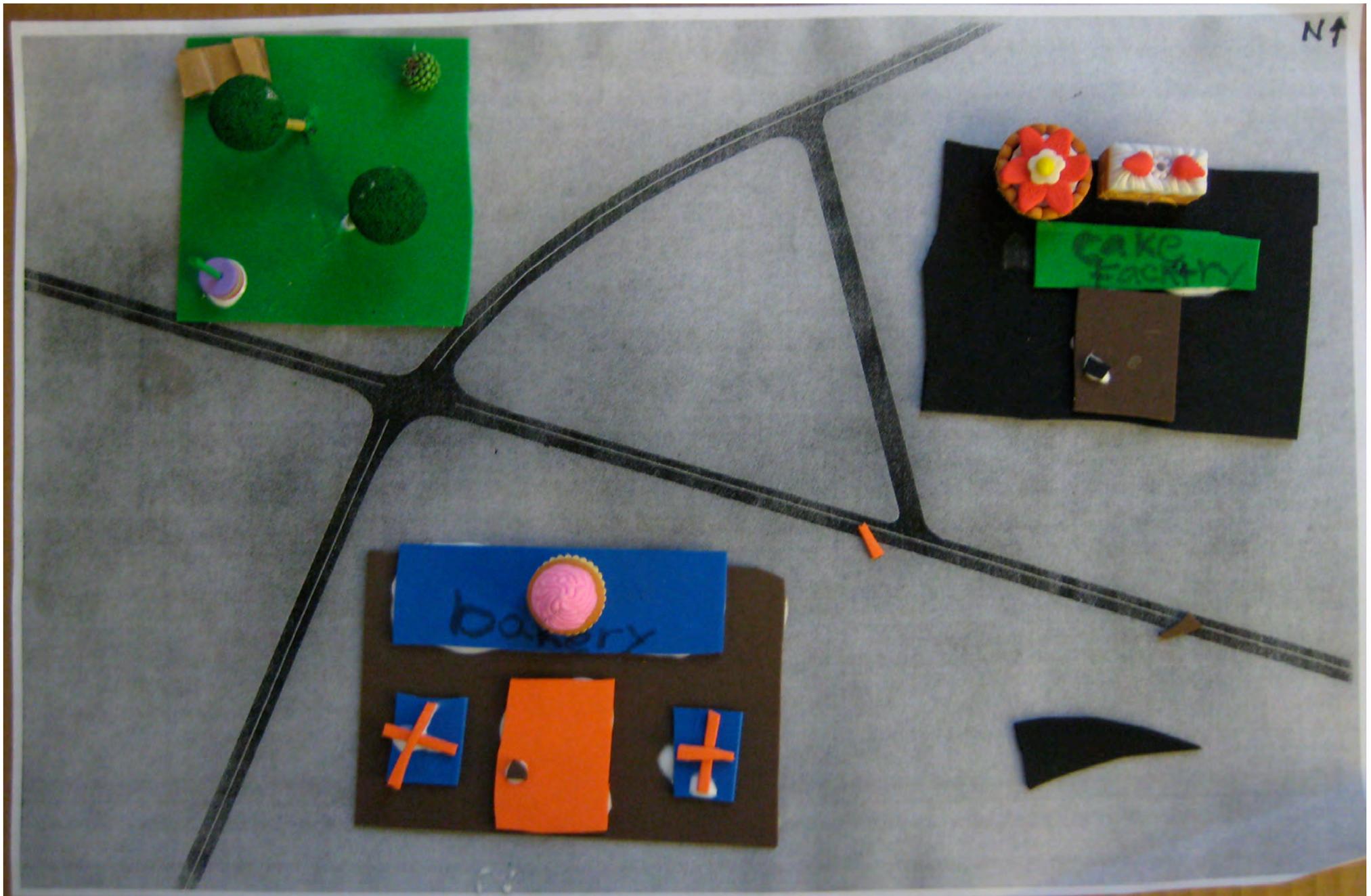
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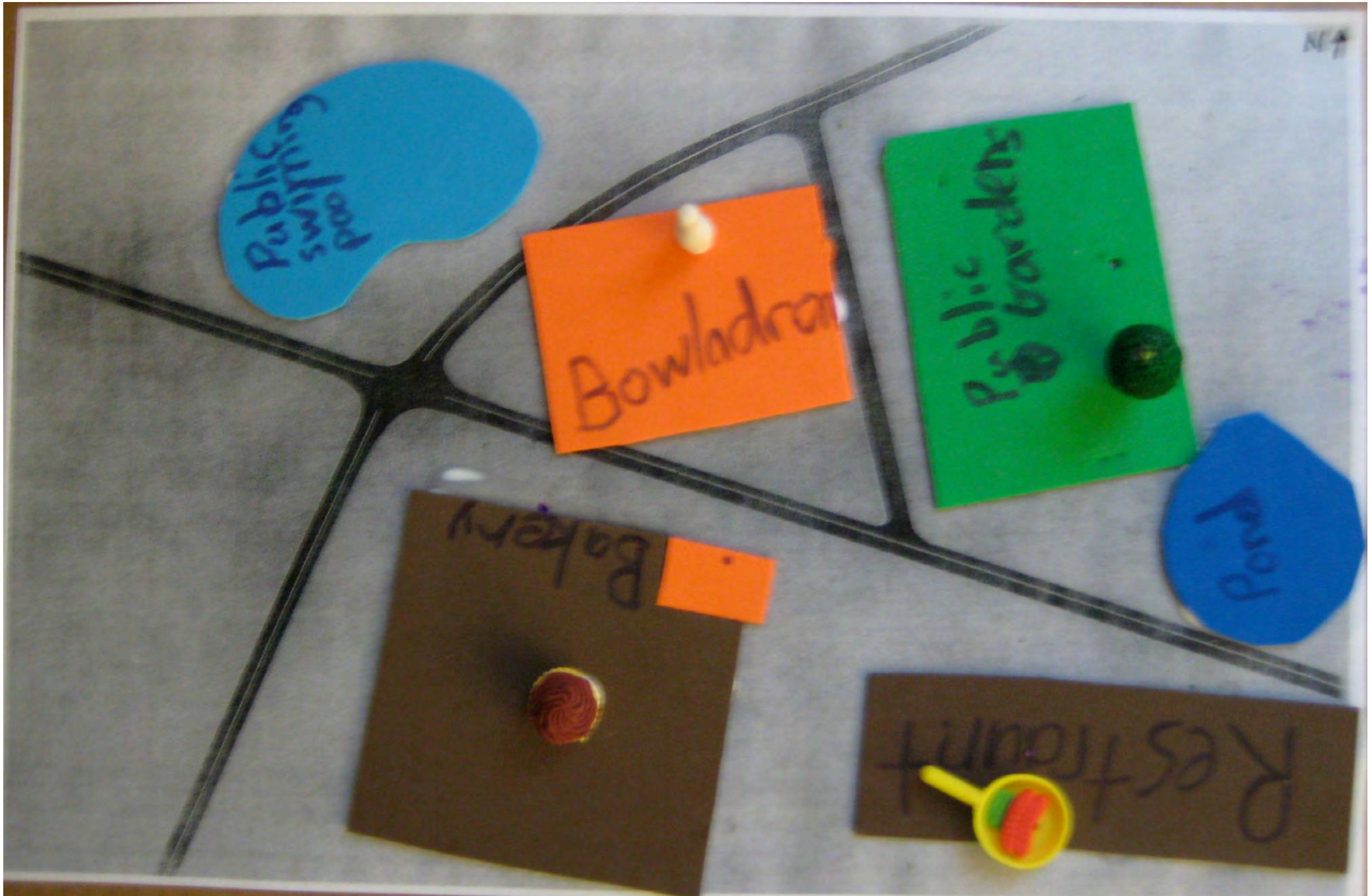
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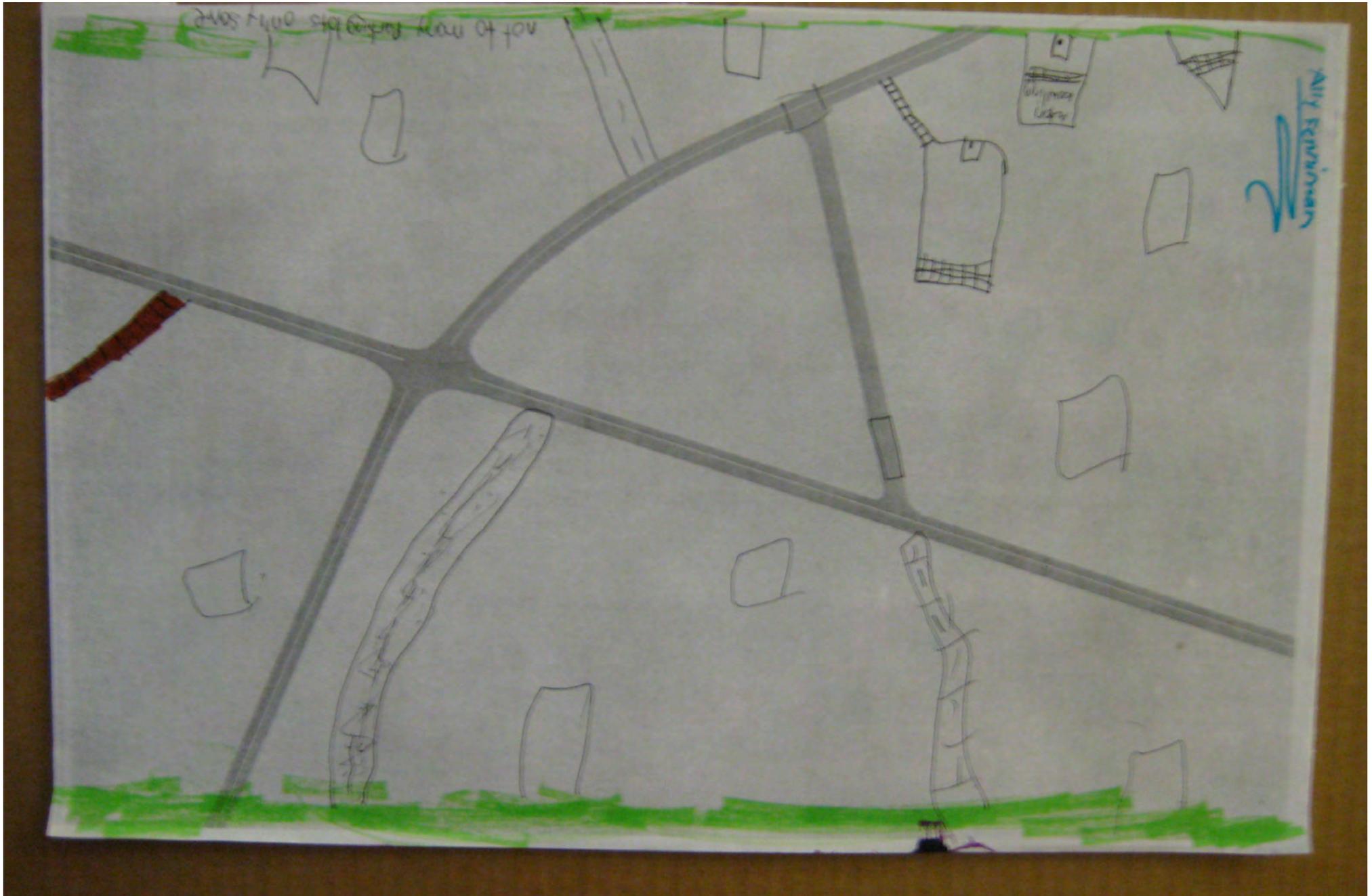












Sent: Friday, November 13, 2009 1:05 PM

Subject: open neighborhood

sorry...we ran out of time to do this. I'll definitely work on my kit next week.

Here are some initial thoughts - the elements I'm going to try to fit in on my kit:

Mini apple orchard highlighting the traditional varieties Acton farms used to grow.

Site for farmer's market when it outgrows Pearl St.

A sense that this is the Front Door, not the side door of the town

Sense of being somewhere with a choice of things to do.

Park in one place and then walk to do errands.

Perhaps one department store type place with clothes that teenagers like

Ice cream shop/deli luncheonette - place that teenagers would like to meet after school with big booths.

Cinema art house - elegant - a night out.

Benches

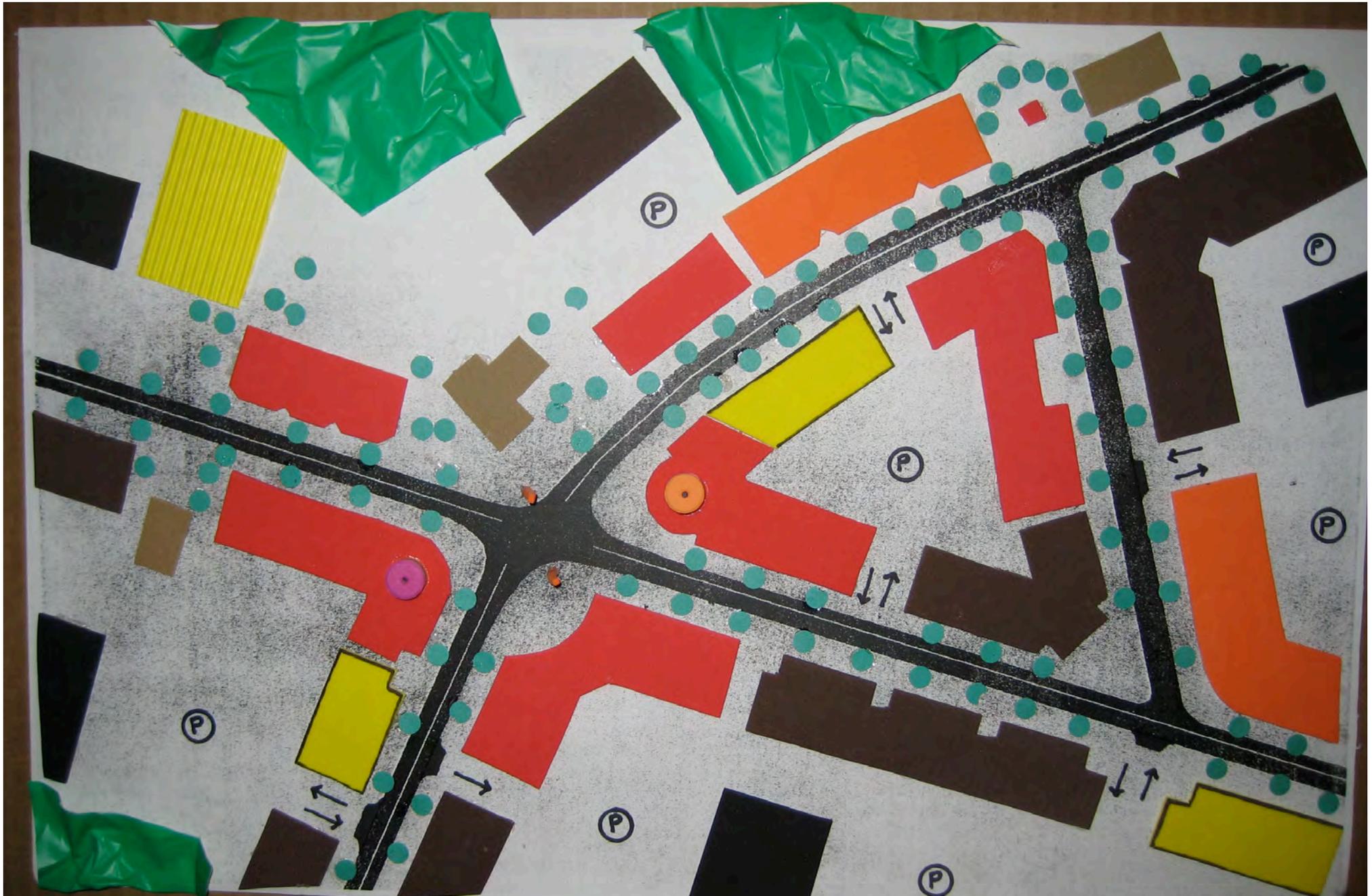
Food shops, ice cream, deli, bookstore, surrounding paved courtyard with seating

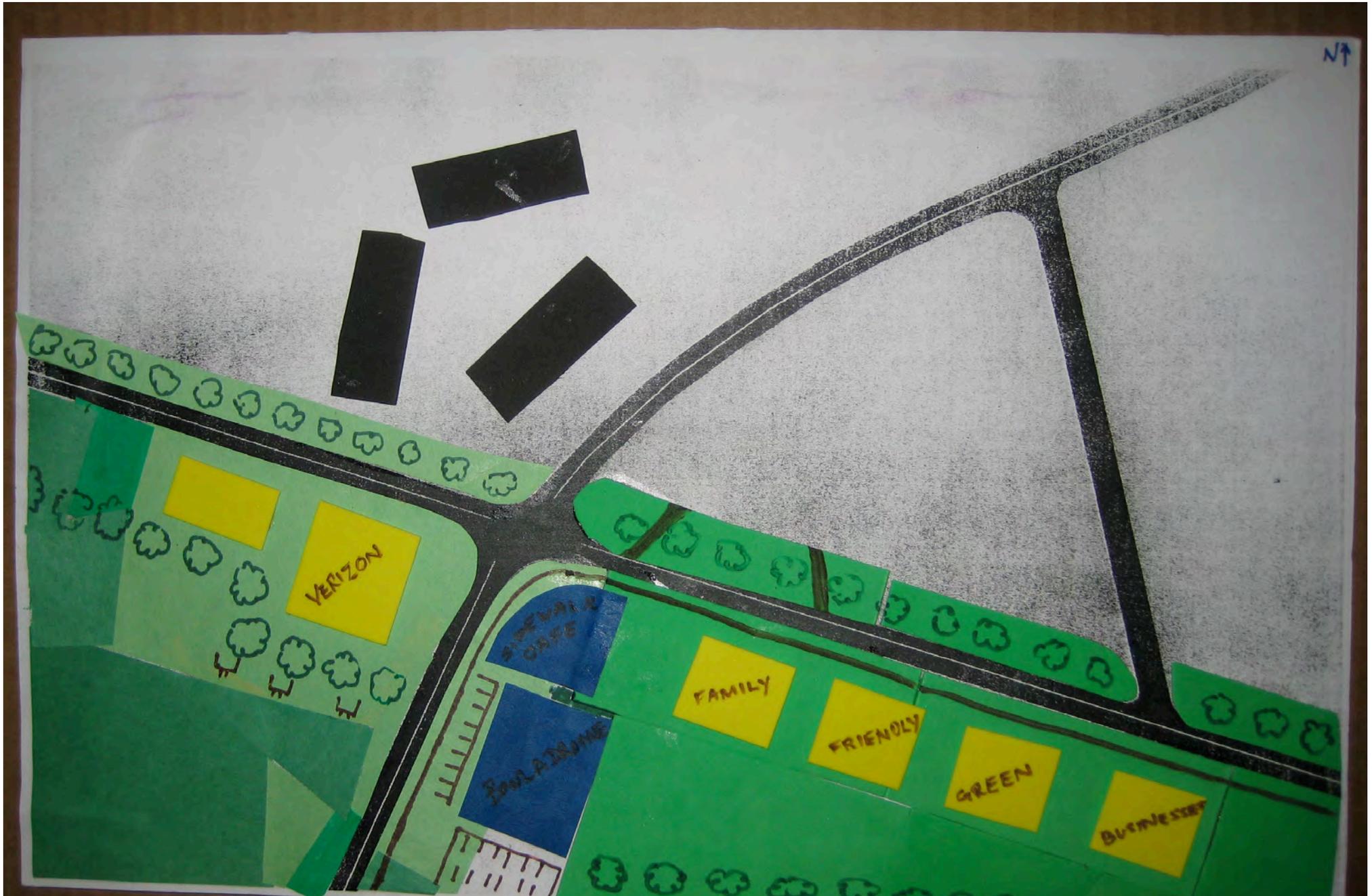
Modern crafts - an artist's cooperative store?

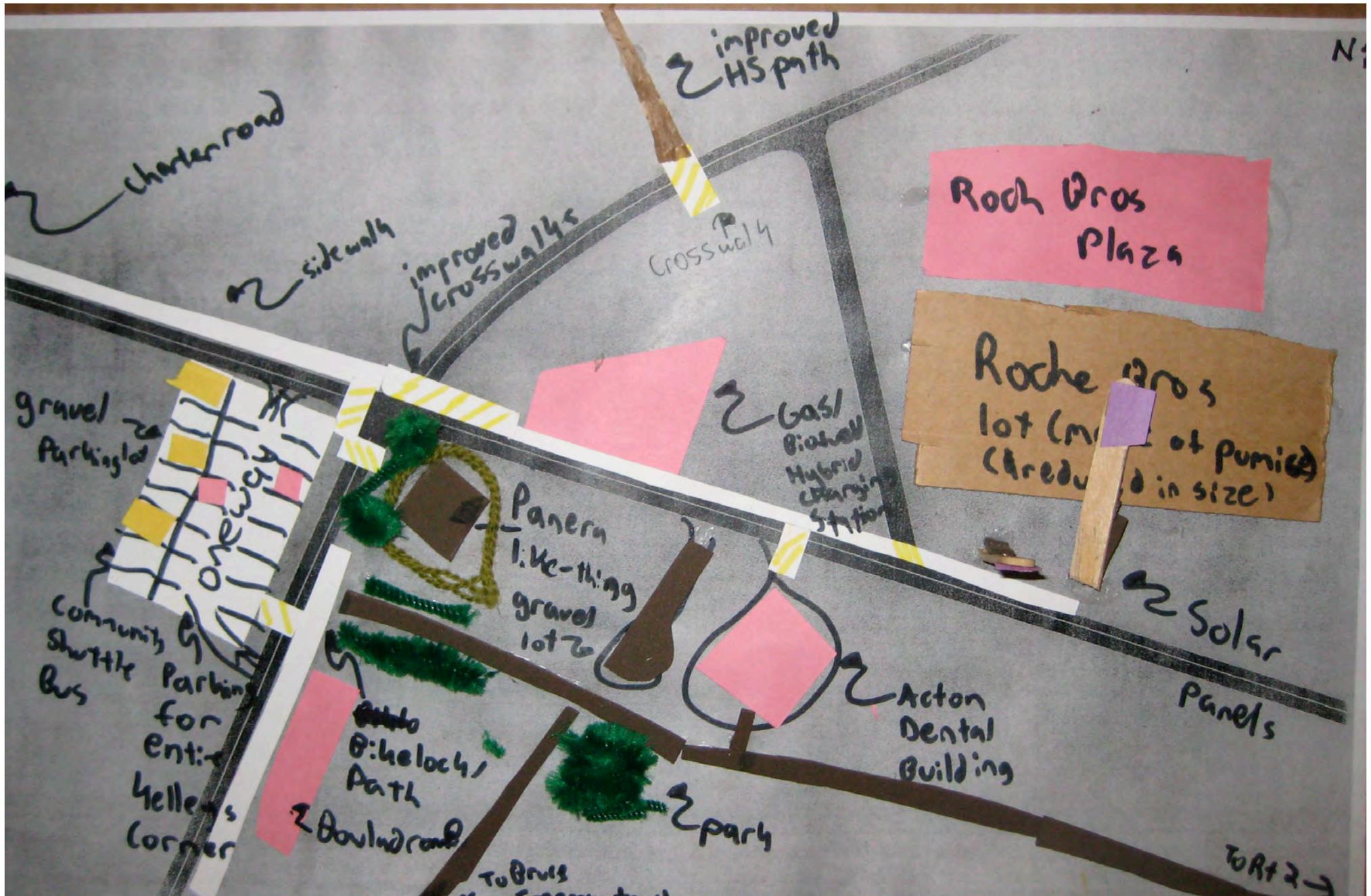
A really nice restaurant for dinner.

Pedestrian connection to Roche Bros, Bowladrome. Connect what's there in a walkable way.



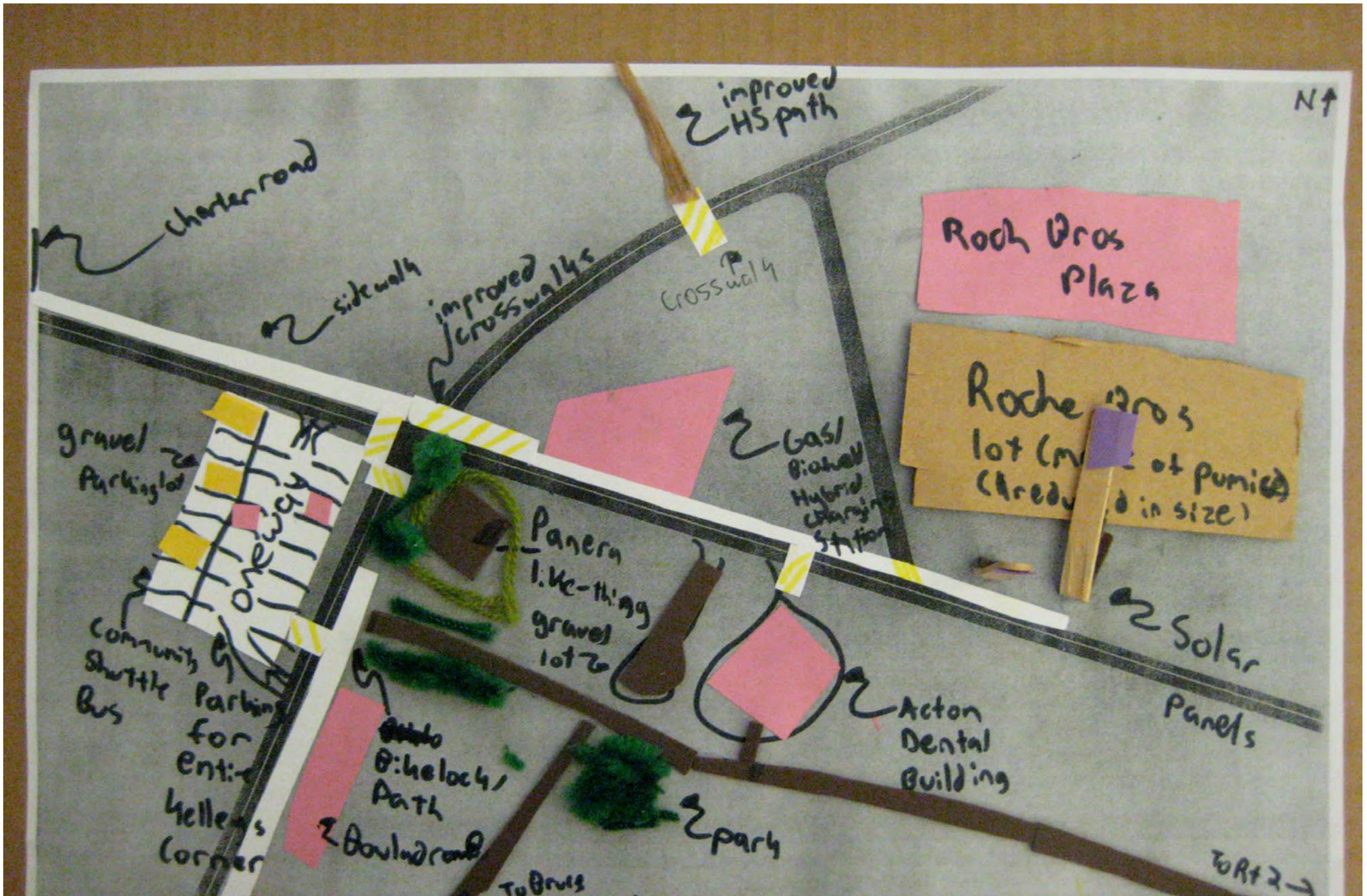


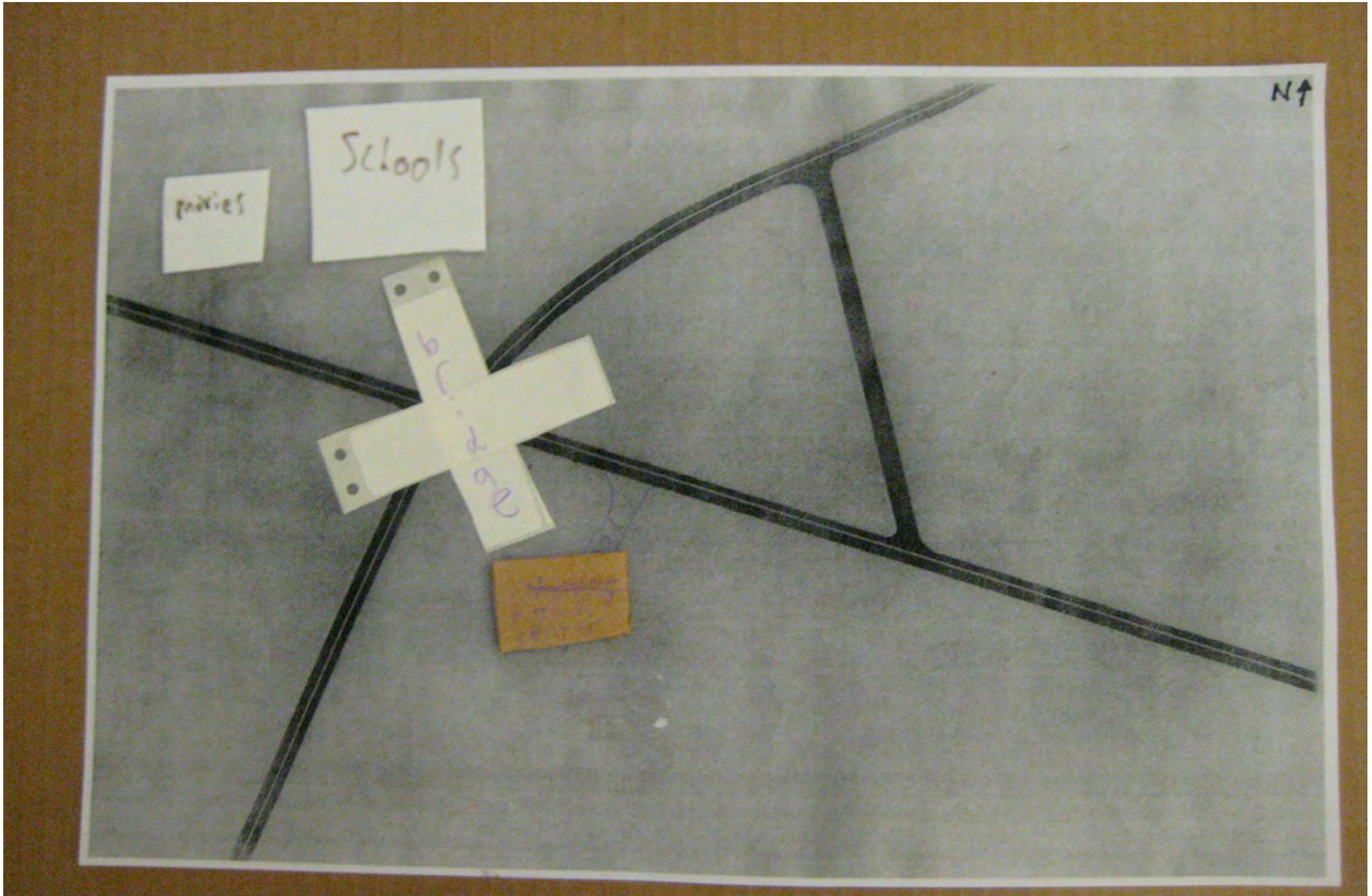












N↑

③ Make incentives for sunbathing + shops to charge more for them if regionally attractive

①

Wide walkways,

alleys w/

businesses

à la

Quebec City

② One-way traffic around

the area, alleys

à la

Mashpee Commons

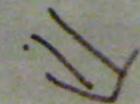
- reshape streets + cross w/

à la Concord, MA

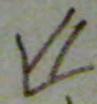
but even more pedestrian.

plant-lined ^{foot.} bridge

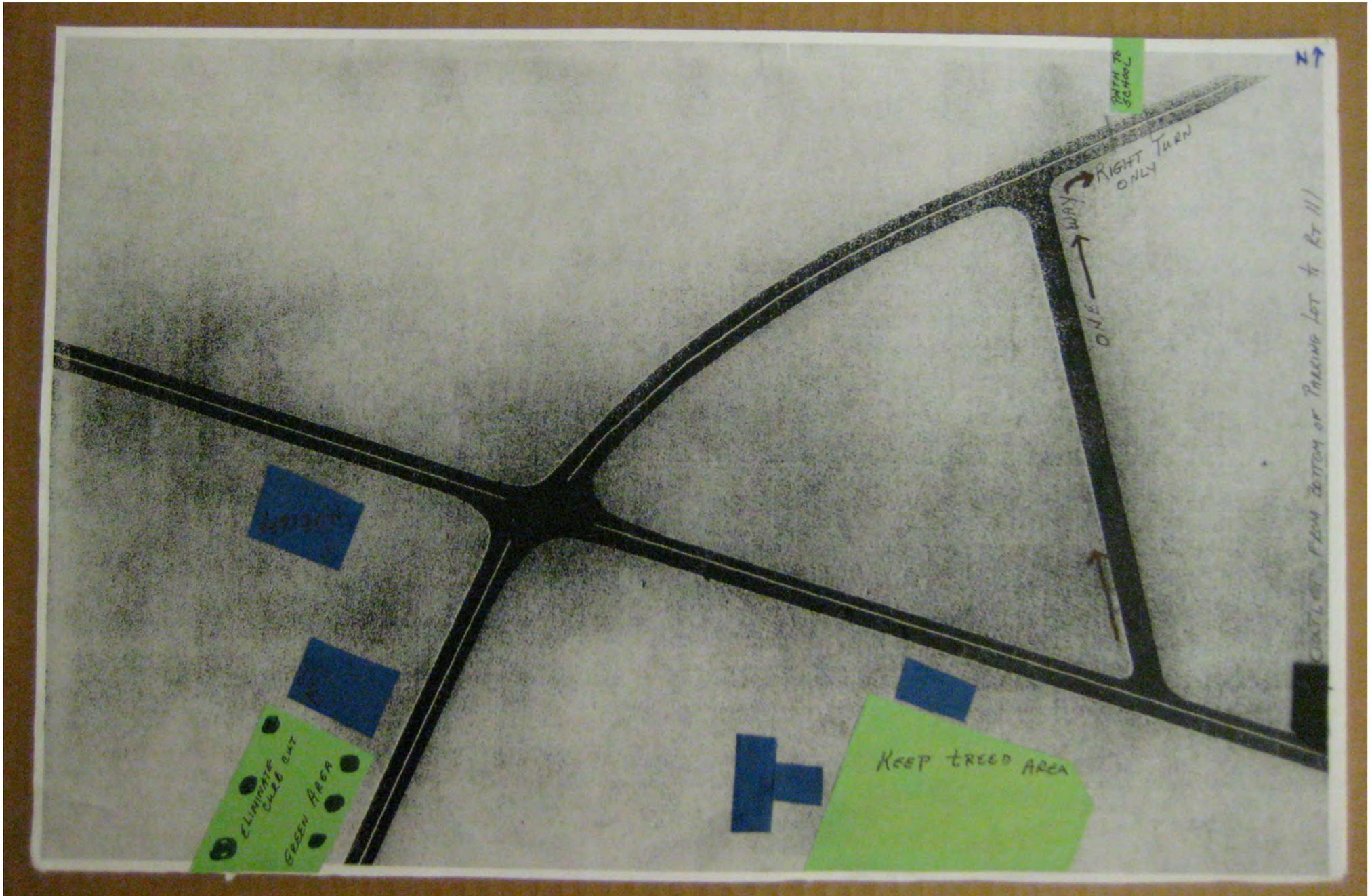
Think new + different

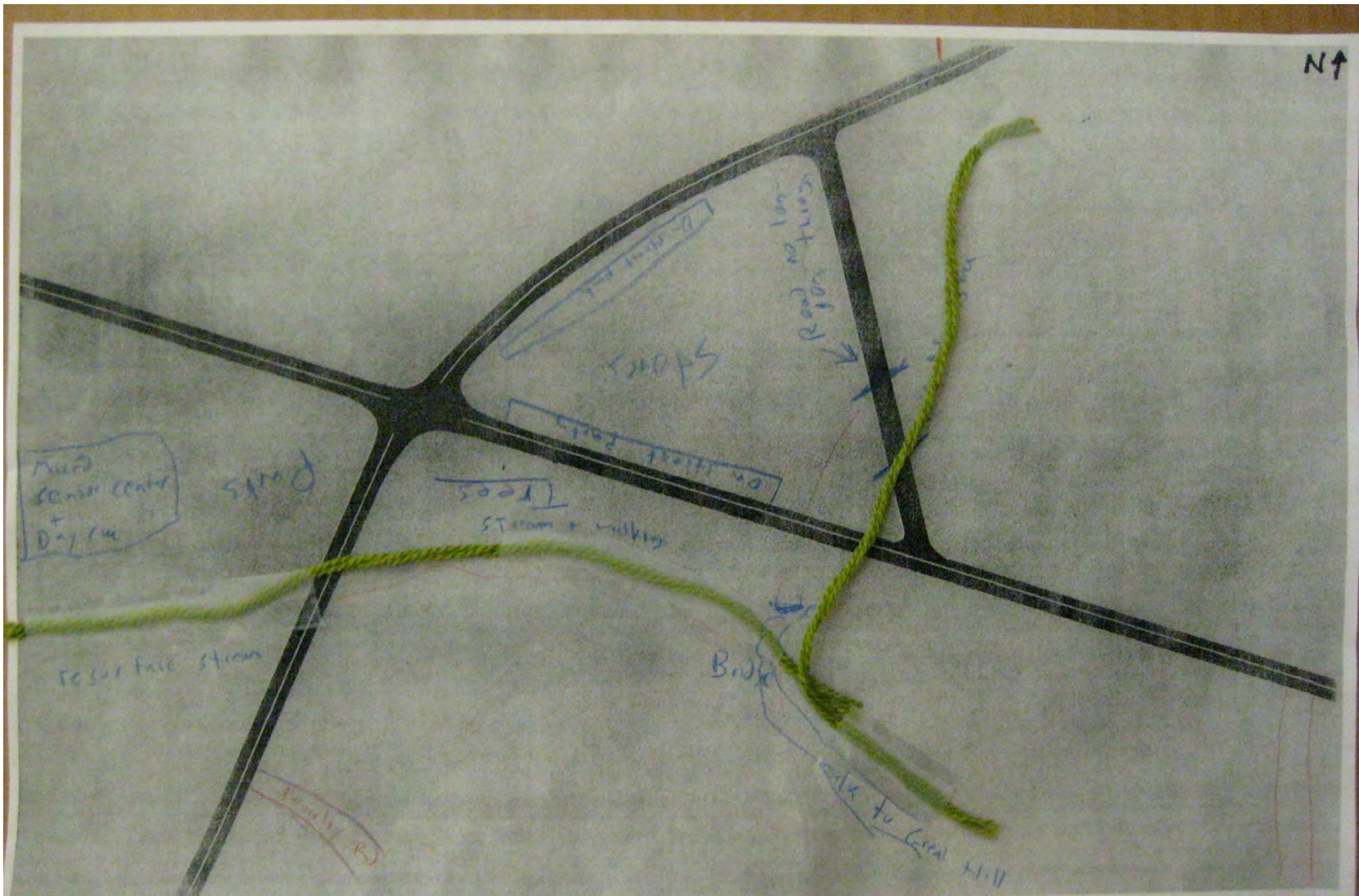


Attracts shoppers + strollers.



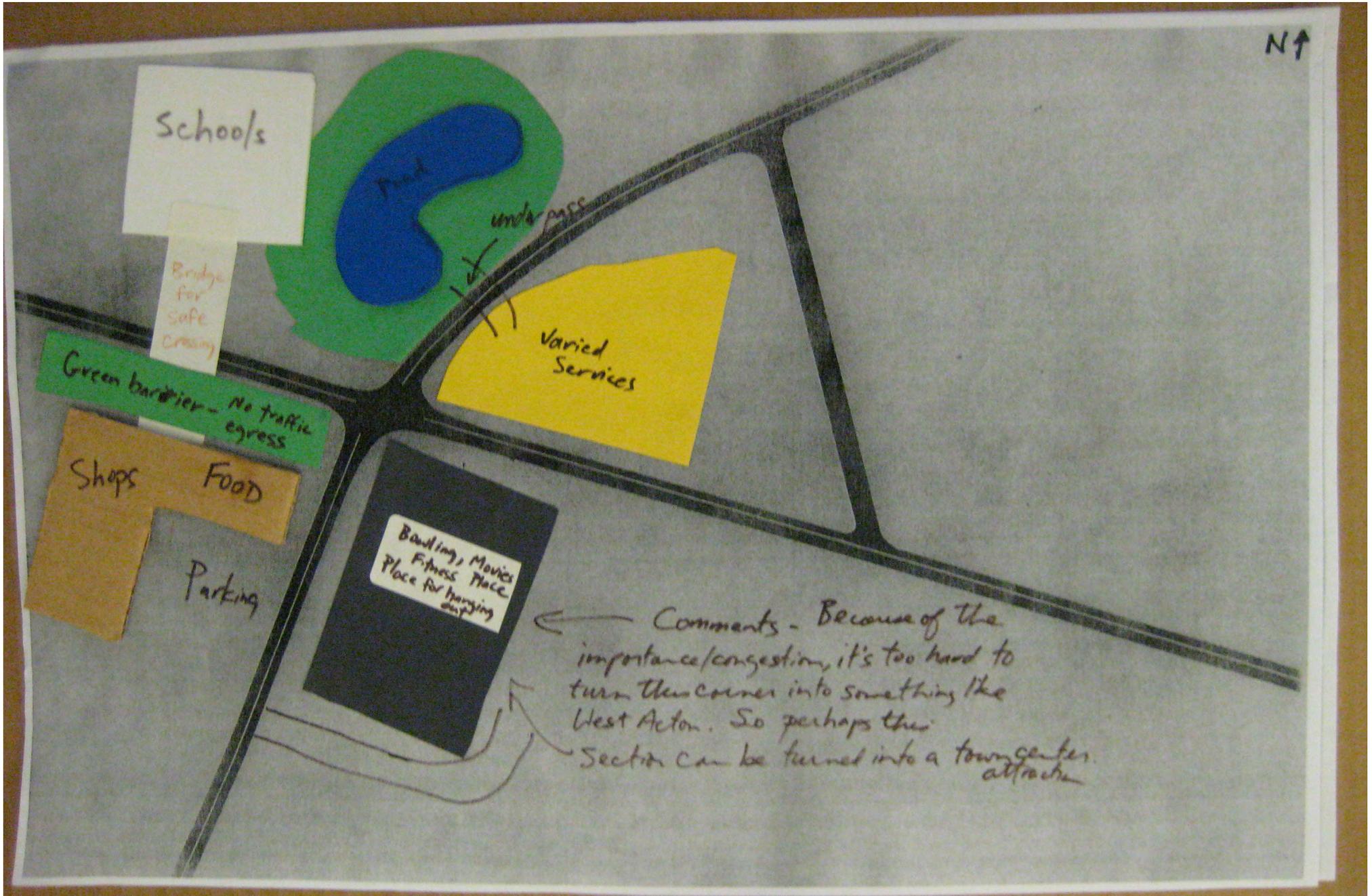
-Fanny Osman

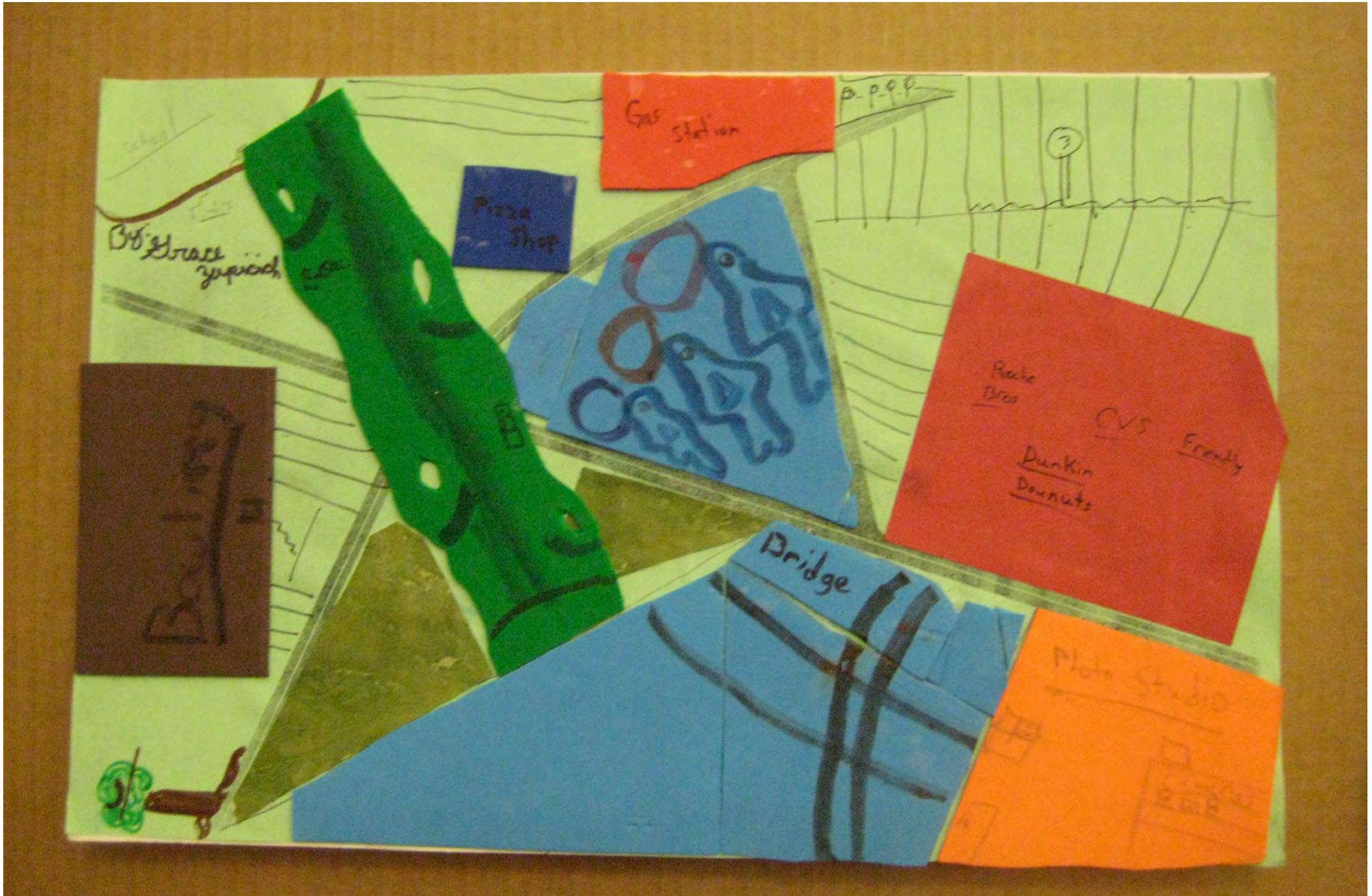




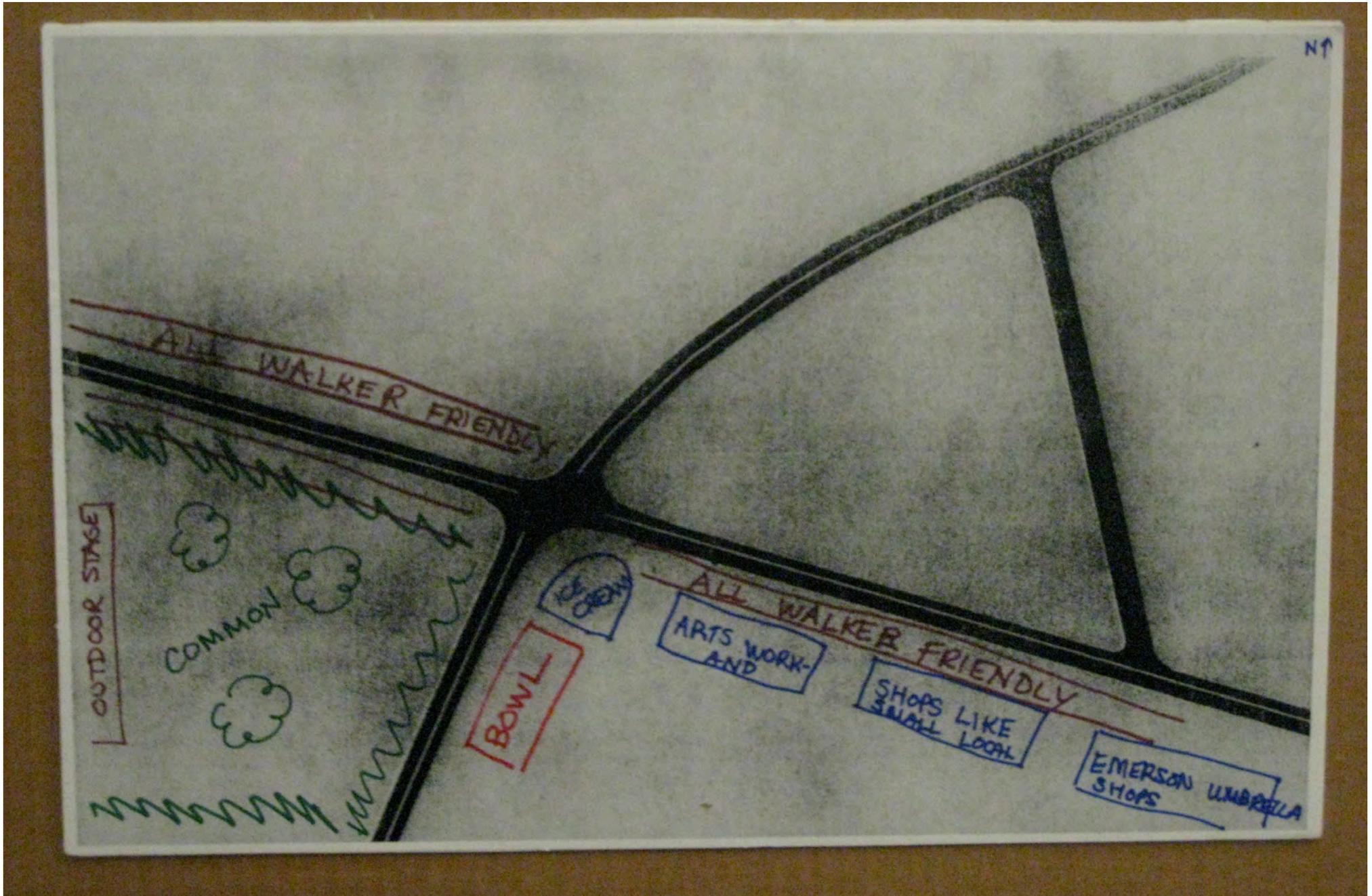




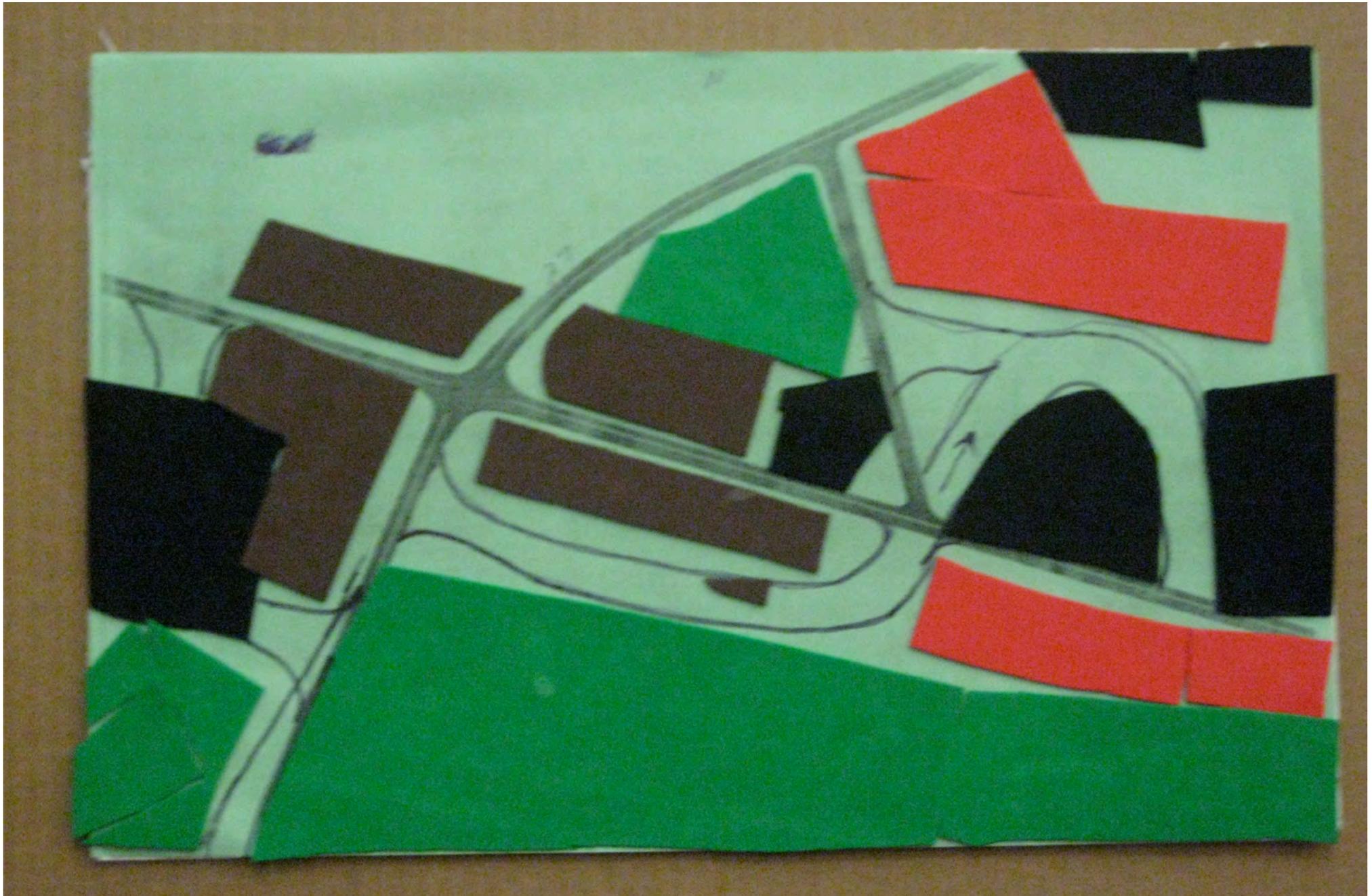








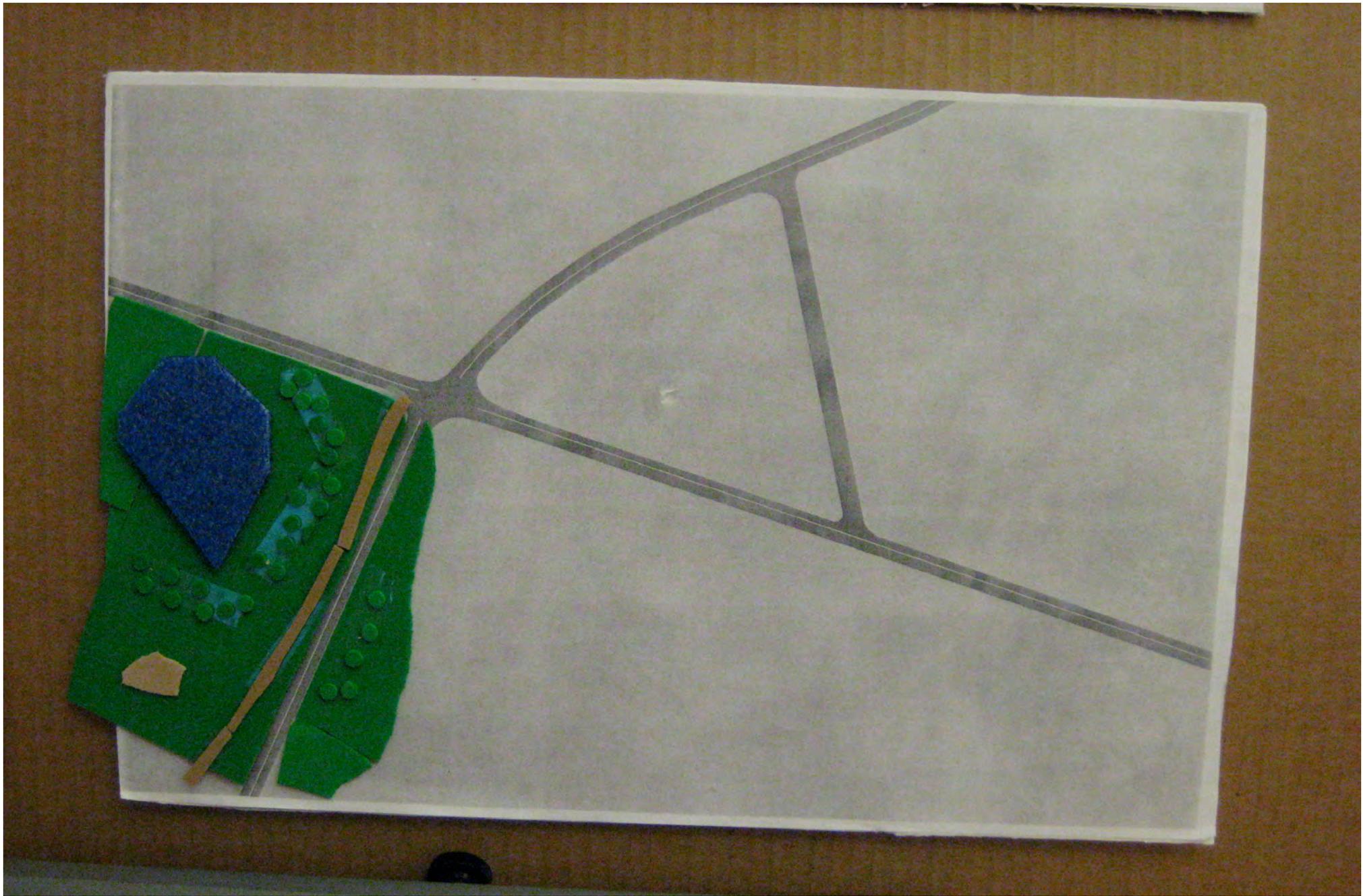




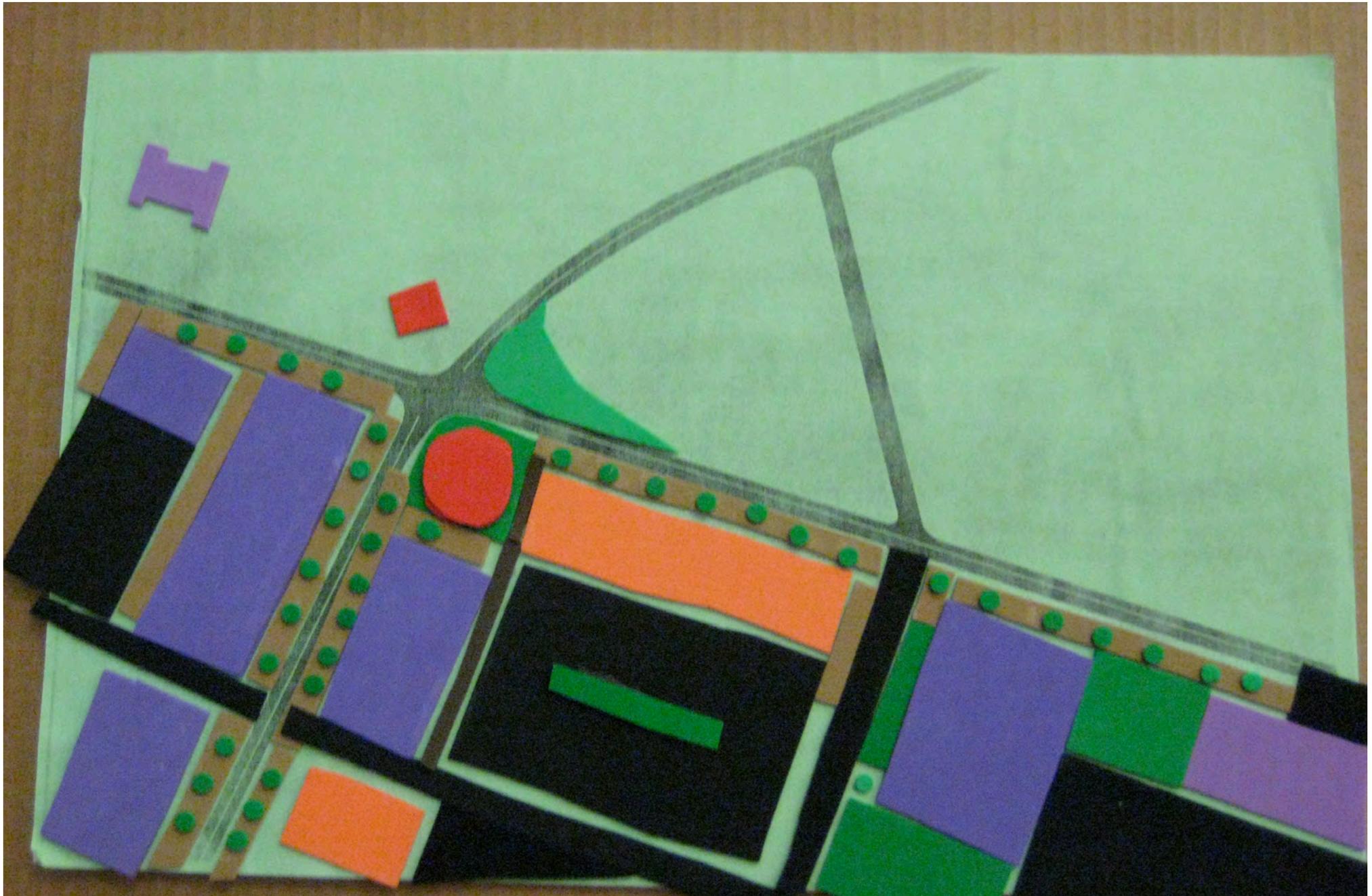


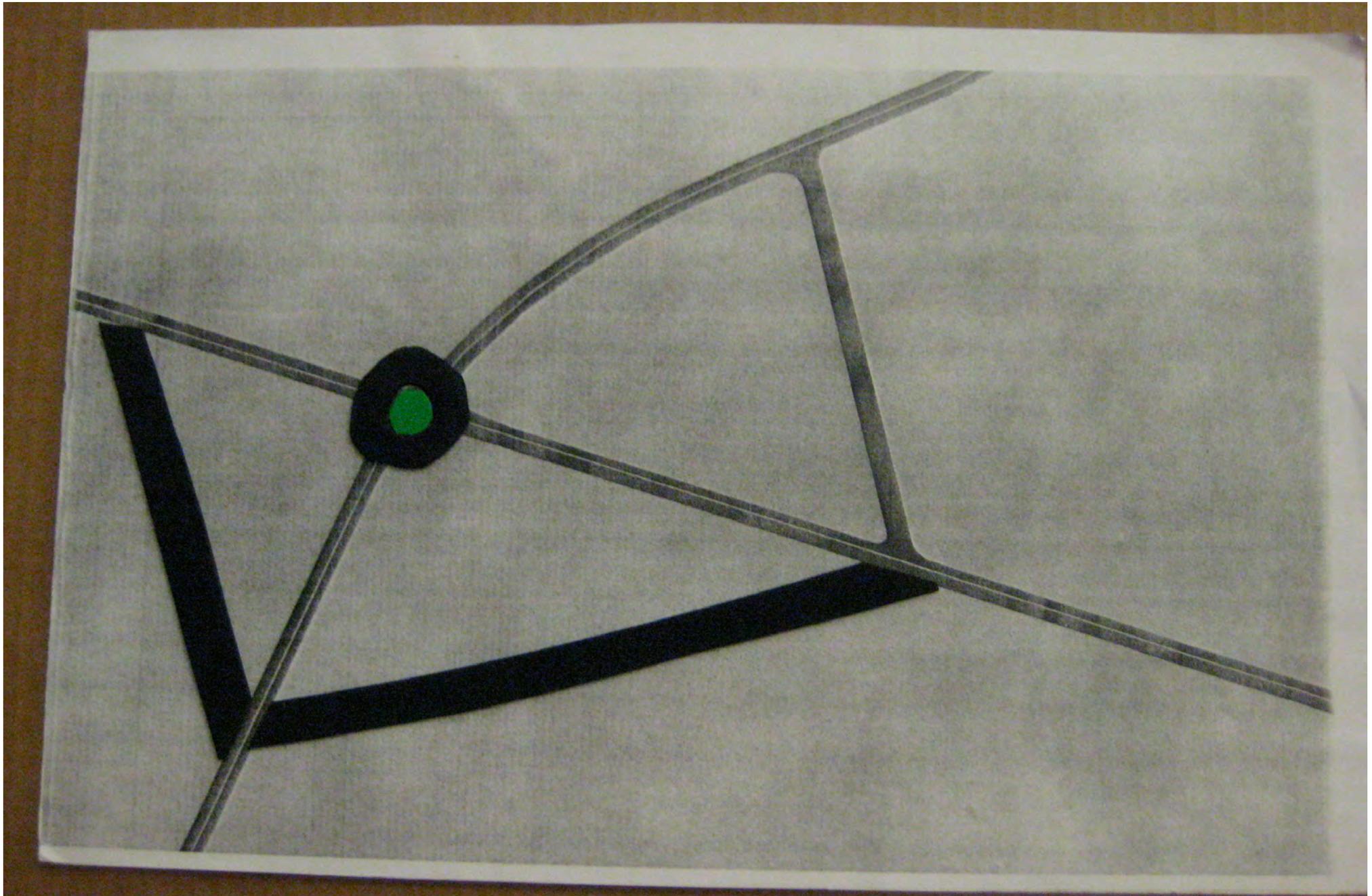


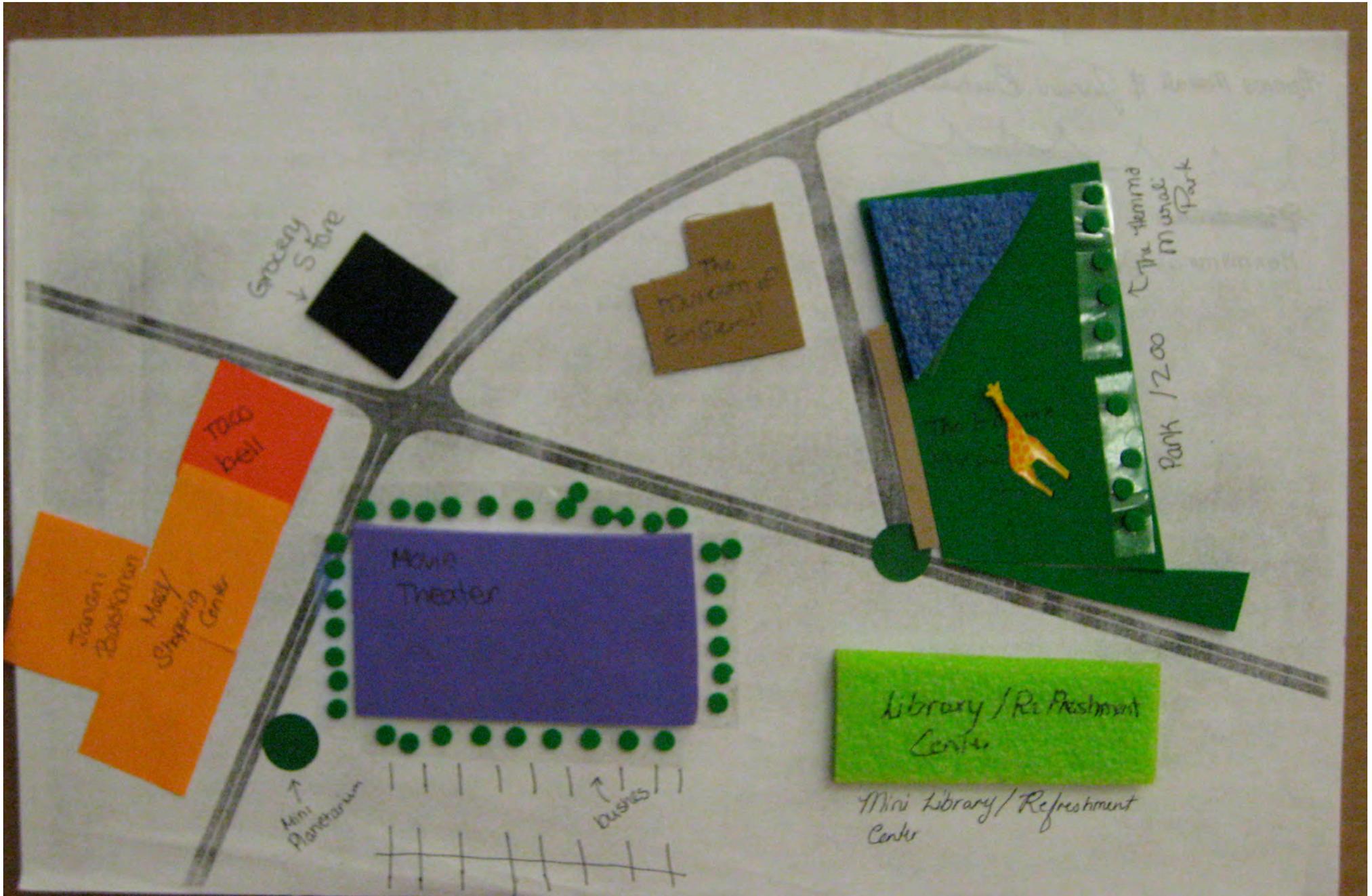








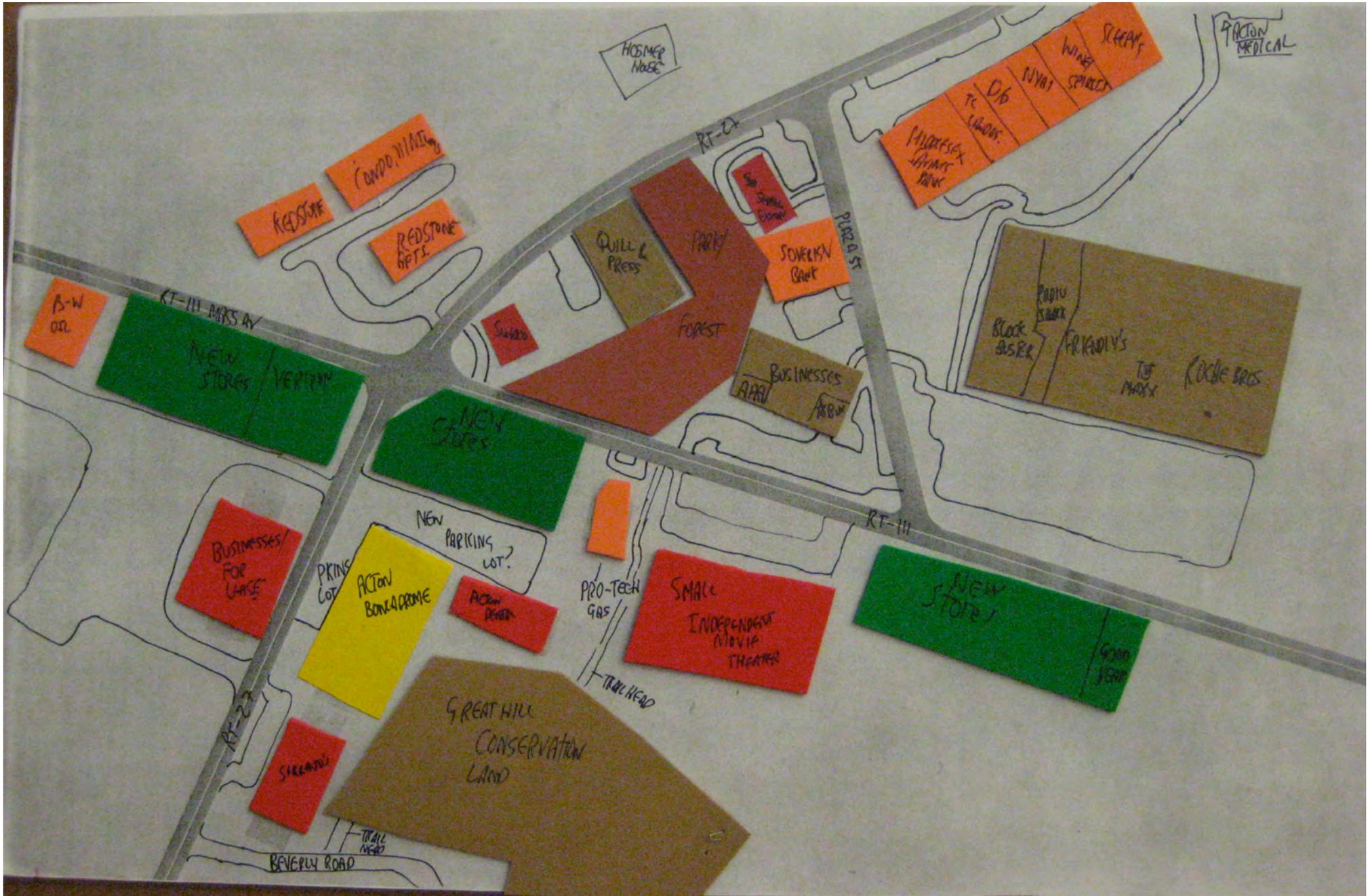


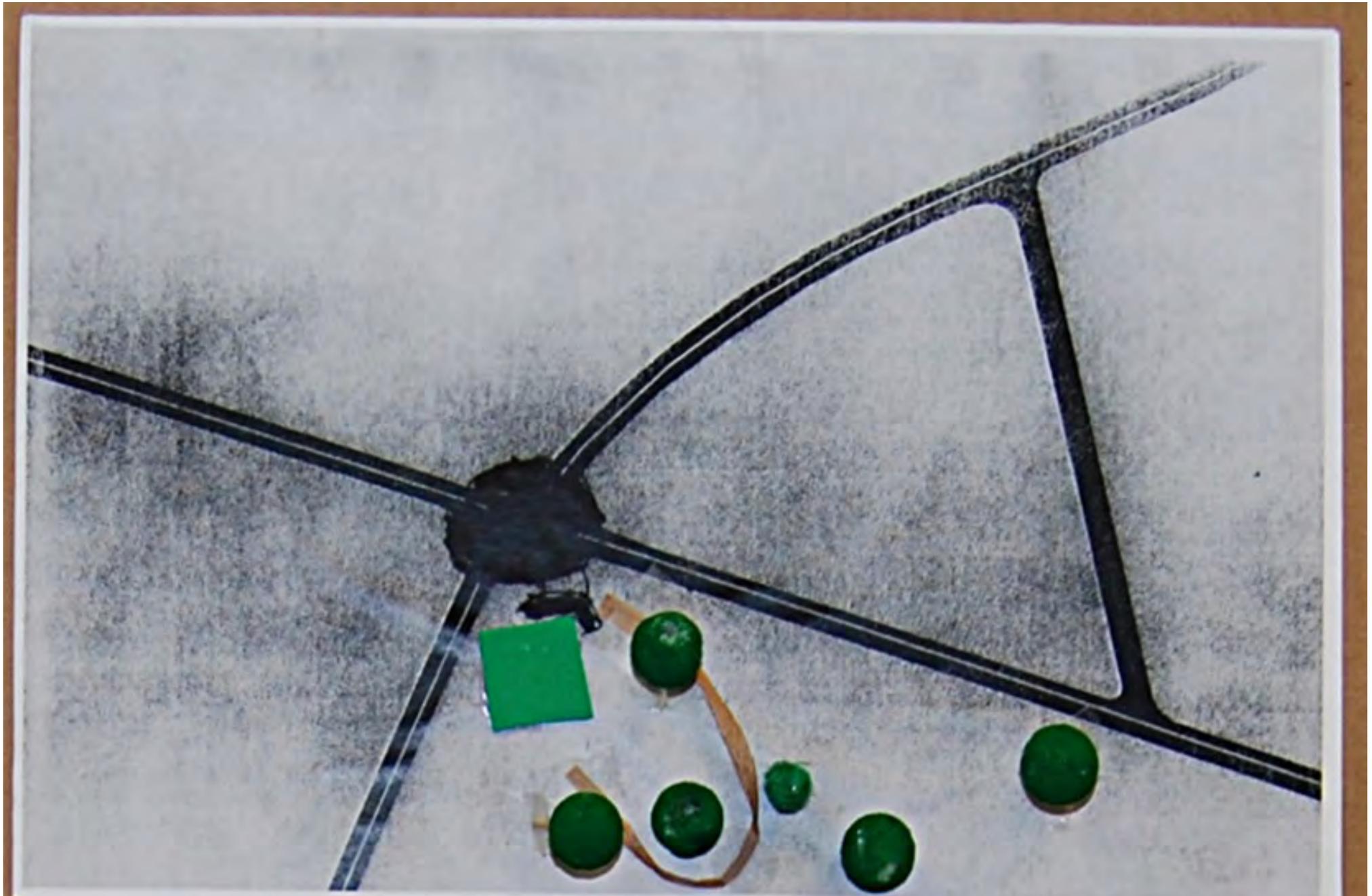


- ① **On** street parking
- ② **Ban** on Gas stations
- ③ **Increase** FAR.
- ④ **no** bank drive thru's
- ⑤ **Side** walks and bike trails



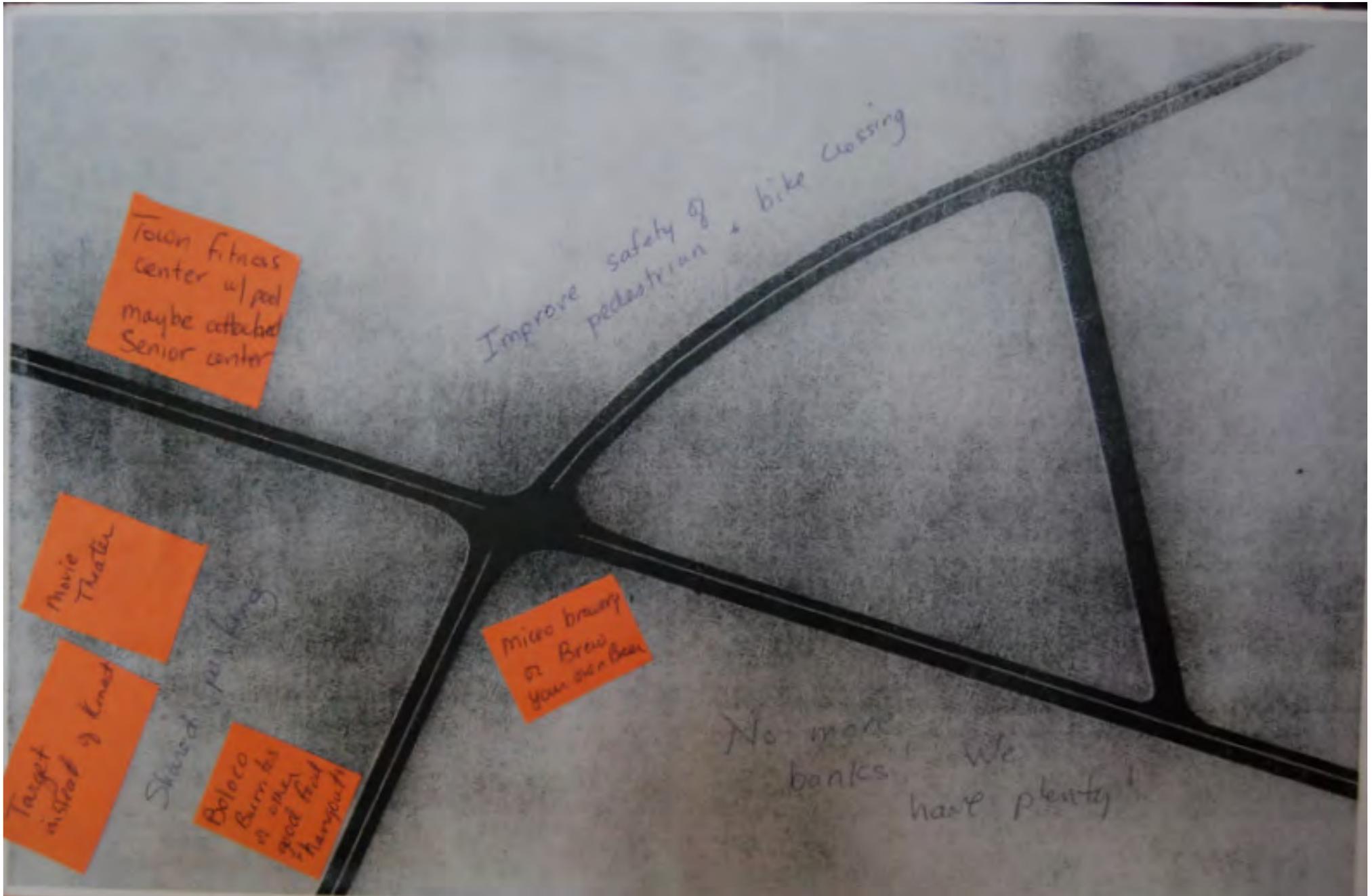




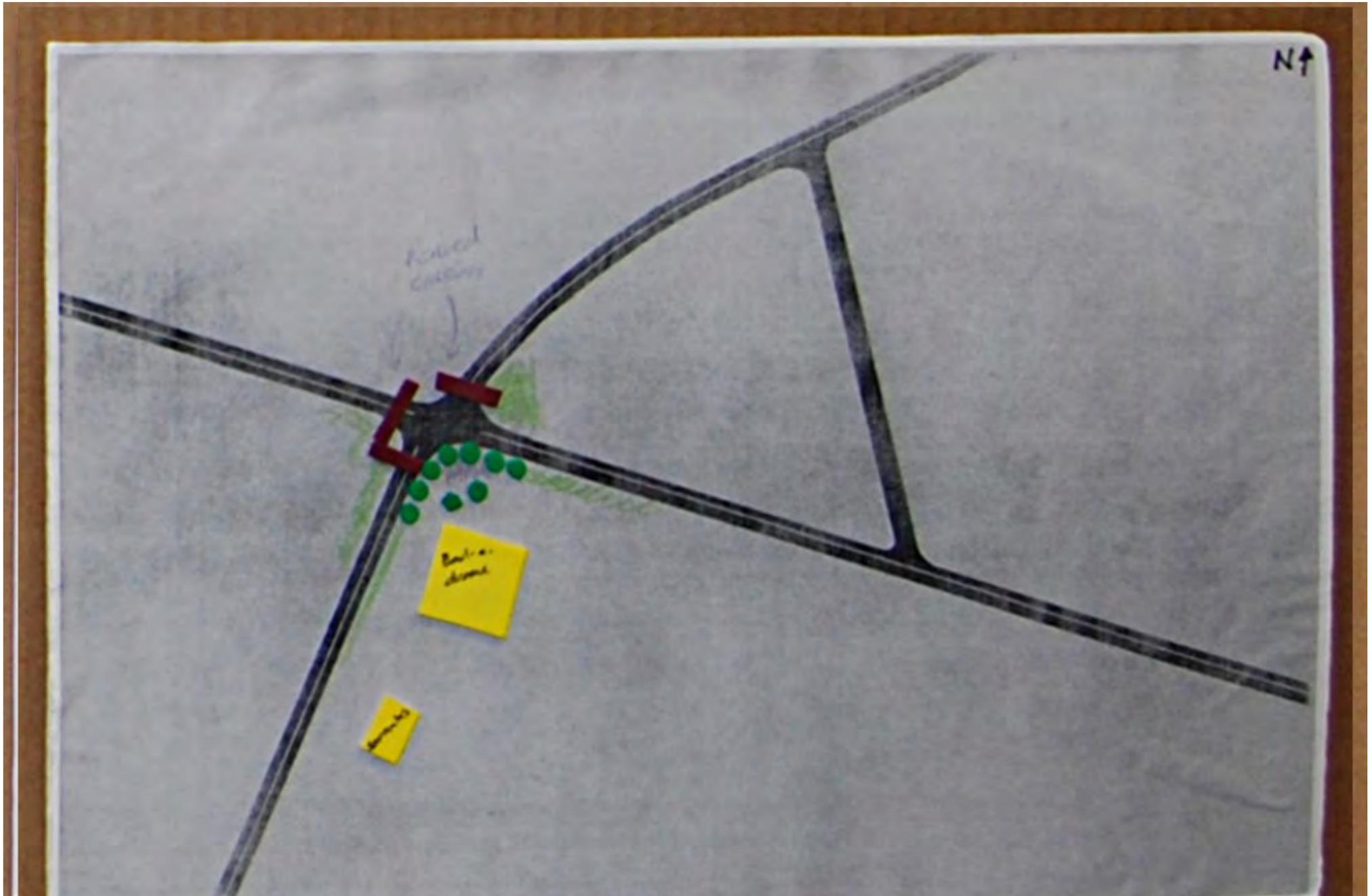


















trees

What was added:

Creating a greener Kelley's Corner

What was removed:

took away some bldgs





About the vision:
I added a courtyard area where the Meineke building is today.
What was added:
More of a gathering area - where students and others could congregate.
What was removed:
Meinke building, old Towne school



Senior center, low cost housing, full restaurant and brick park with benches. Brick sidewalk connecting park and shopping area.

What was added:

Bring open space, reuse brown space and make Kelley's corner a destination.

What was removed:

Muffler building



About the vision:
Concentrated development around corner
What was added:
make Kelley's corner busier, more lively
What was removed:



Connected retail, to encourage walking. Brick sidewalks. Trees. Was unable to add benches, gardens, etc.

What was added:

I'd like this to be a walking destination that is both attractive and useful.

What was removed:

60s style buildings. Disconnected buildings. Individually styled buildings. It would look better with more uniform and attractive architecture.





About the vision:

I added small concentrated business to the corners, a community center for after school, and parks.

What was added:

I wanted to bring more life to the corner, and cut down on pavement. I think more trees would be great, and smaller buildings.

What was removed:

Pavement was removed, also the gas station and businesses that are not in operation.





About the vision:

Took away muffler building and created greenspace

What was added:

Need to work with what is within our reach and not overextend. Would like to slow traffic as well.

What was removed:

Muffler Shop is removed