UNDERSTANDING LANDSCAPE CHANGE IN OPEN SPACE NEIGHBORHOODS: VIEWS FROM DEVELOPERS AND RESIDENTS

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Abstract: The landscape is changing across the country, particularly in outlying areas of US cities. These fringe areas, often called exurbia, continue to move further from the city core. Their growth is largely created by new residential, commercial ,and industrial development. Dramatic land use and land cover changes in these areas from agricultural or forested to buildings and paved surface areas will continue, unless some efforts are made to preserve unique natural resources and portions of the original landscape. The research reported here shares results of a study investigating: (1) residential developers' desired land characteristics for neighborhoods and their views and concerns about their developments which include open space and recreation features and (2) residents' interest in open space, natural features in their lot and neighborhood, and recreation facilities. The benefits residents receive from open space and natural features are also explored.

Introduction

Concern has been growing about metropolitan areas and development occurring far from the central city core. At the same time, rural or vacation areas, far from metropolitan areas, are also developing at a rapid pace. Gobster, Haight and Shriner (2000) point out that "contemporary patterns of land ownership and development are changing the landscape of urban, suburban and rural areas (p. 9)". This development surge has serious implications for social, environment, and economic well being. The Landscape Change Integrated Research and Development Program of the USDA Forest Service, North Central Research Stations, seeks to better understand actual and projected landscape change by examining causes, effects and strategies that can mitigate some of the negative impacts of rapid land use (Gobster et al., 2000). Specifically, development in urban-suburban sprawl zones and second home development are types of development featured in the landscape change agenda.

Nelson (1992) has defined exurbia as land use between the suburbs and rural areas where commuting into a city for employment is not feasible. It includes farms, forests, isolated suburban subdivisions, small towns, acreage tract subdivisions, and estates. According to Nelson, exurbia is increasing for a number of reasons.) These reasons are improved technology, deconcentration of employment and rise of suburban industrial parks, rural location preferences of US households, and policies that favor (or allow) low density over high density residential development. Studies that have examined large metropolitan areas such as Portland and the state of Oregon (Kline and Alig, 1999) show that land use planning programs are working in some instances (more development occurring in urban areas), however development in rural areas is not necessarily diminishing. Other studies (Varady, 1990) have examined how residential choices influence home location decisions for city or suburban environments. At a micro level, researchers are examining how certain residential settings are liked or disliked by residents. Kaplan (2001) studied apartment dwellers to understand preferences for built or natural elements in their viewshed, while Ryan (2002) examined built and natural elements of residential housing from the perspective of rural residents, including subdivision dwellers, and traditional rural dwellers.

Our study recognizes the dynamics of the changing landscape and the variety of factors contributing to the change. First is that residential development is changing the landscape beyond suburbia into exurbia and rural areas. Throughout the 1990s, residential developers and home builders "consumed" significant amounts of land. A second factor has been the growing interest in natural environments and other amenities associated with where people live. In addition to developers, this interest has been shown by new home buyers and local governments that set zoning laws, issue building permits, and build infrastructure. Another factor is the varying interest in and willingness to legislate smart growth initiatives by state and local governmental units. Finally, there is interest among some developers, home buyers, and local governments in supporting a "new" neighborhood concept called open space neighborhoods that seek to maintain and expand upon much of the original landscape.

Thus, the focus of this paper is on open space neighborhoods from the perspective of recent home buyers and residential developers. Although not discussed in this paper, two other stakeholder groups (township or local planning officials and locally involved environmentalists) were also queried.

Specifically, research questions examined for recent homebuyers were:
1. To what extent do home buyers' consider open space, natural features in their lot and neighborhood, and recreation facilities at the time of purchase?
2. What are residents' perceived benefits and costs of living in an area with some commonly owned open space?
3. Does living in an open space subdivision discourage second home ownership "in the north woods?"
Research questions for developers were:

4. What do developers' consider to be important land features for new residential neighborhoods?
5. What are developers' views and concerns about their development which includes open space and recreation features?

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Methods

Two western fringe counties of the Detroit Metropolitan area were selected as the study area. Specifically, Livingston and Washtenaw Counties were studied because of their rapid population growth and extensive residential development, much of which has occurred in significant natural resource areas. The two counties both contain a major river corridor (the Huron River), several regional parks, several state recreation areas, and significant acres of forested private land. Importantly, these two counties are located along the urban/rural interface and are currently experiencing many of the signs of urban sprawl. One of these counties has the highest population growth rates reported in the state and the other county has also experienced significant growth. Over a 12-month period, data were gathered from four local developers who had recently completed several medium or large residential subdivisions in the study area and from eighty-five residents who lived in newer subdivisions which satisfied selection criteria. Residents were queried as part of focus groups which were held in homes in the subdivision, while developers were interviewed individually. Interview or focus group scripts were used and comments were transcribed and analyzed. Residents also completed a five-page self-administered questionnaire during the focus group which provided limited quantitative data.

Open space neighborhoods were operationalized as subdivisions that were created on land that had some level of wooded or unbuildable (e.g., wetlands, extreme slope) features, that preserved these areas for recreational use and/or enjoyment after the development was completed. Open space subdivisions tend to be found in townships that have created a special ordinance that allows more houses per buildable land as a trade for open space. Thus, these subdivisions have a higher density of buildable homes than subdivisions built under traditional zoning regulations.

Findings

The first research question examined whether or not recent home buyers thought about open space, natural features in their lot and neighborhood, and nearby recreation facilities at the time of purchase. Using comments from the focus group sessions, a typology of push and pull factors was created. While many open space residents didn't know the rationale of open space zoning for neighborhoods or the considerations of the developer, the features that open space communities provide were desirable to home buyers.

Lot and home purchasing often involved both push and pull factors. **Push factors** included typical urban flight reasons, such as the desire to leave conditions perceived as crowded or unsafe (Table 1). Suburban areas were sometimes mentioned as places that participants wanted o leave. Sometimes residents moved for job-related reasons. Some participants purchased a home because of job transfers from out-of-state. Other residents moved because they wanted a change in lifestyle after their children left home or after retirement. Additional push factors mentioned were escaping from commercial development, high prices of homes in built up areas (Ann Arbor), and searching for a safer place for children.

Insert table 1 about here

While push factors were evident in residential choices, pull factors were stronger influences on moves into or within Livingston and Washtenaw counties. **Pull factors** included the location, the developer and the specific development, the social setting, financial considerations, and the natural environment.

The location of the subdivision was an important factor to many participants in their decision to move. In Livingston and Washtenaw counties, location preferences were expressed in many ways including: wanting to be near the country or city, to be in a country-like setting, to be away from a highway, and to be in a growing community. *School districts* were often the first item mentioned, particularly by participants with school-aged children. Some parents judged schools by their "image" as a good school district, while others used test evaluation scores to judge excellence. Besides academics, some individuals also considered the proximity of the school to their home. For some individuals *access to transportation* was important. Even though Livingston and Washtenaw counties are at the edge of the metropolitan area, most participants viewed the counties as a "hub" and conveniently located to the cities of Detroit, Flint, Lansing, Jackson and Ann Arbor.

Many recent homebuyers mentioned that it was either the **developer** or some characteristic of the **development** that attracted them to move and buy into a specific neighborhood. The comments ranged from effective marketing techniques including the name of the subdivision, to the quality of the homes, the lot sizes, and the infrastructure including good roads. Many homeowners were attracted to the size of the lot and the design of the houses. Some sought a "large lot," while others were concerned that the combination of lot size and house size was a good value. Some residents also looked for variety in house designs. Sometimes this was accomplished by allowing several builders to build in the subdivision, and sometimes the developer/builder recognized the demand for custom homes. Residents also attached importance to roads and sidewalks. They liked curved streets, cul-de-sacs, and dead-ends, which made for slower traffic. Parents were particularly interested in safe environments where their children would not be subject to busy roads or visually noticeable passing traffic.

Many residents were concerned with the **social environment** in which they would like to live. Some participants were interested in returning either to an area similar to where they grew up or to the same place. They were interested in small communities and larger lots similar to what they had when they were children. For some couples, a fringe county represented a middle ground between the preferences of one spouse who grew up in a rural area and the other spouse who grew up in an urban setting.

Sense of community was also a factor in selecting open space communities. In one Livingston County township, open space neighborhoods have been the norm since an open space zoning ordinance was enacted in the early 1990s. In these subdivisions, the social opportunities were often a by-product of the open space areas because residents often met with in them while recreating or shared responsibility for maintaining them. Some focus group participants commented that they were seeking a place where they could enjoy "the camaraderie of the subdivision," and "the subdivision's friendly neighborhood feel." This was especially important for people with children.

Residents also expressed a desire to have *seclusion and privacy in selecting their place of residence.* Along with privacy and seclusion came quiet, calmness, and a sense of safety. For some, seclusion meant not living on busy streets while for others, it was living in a subdivision far from busy streets.

The dwelling is a major purchase for most households, and participants mentioned an assortment of **financial considerations** in their decision to move. House value was important when making the purchase decision. They sought homes they could afford, land that would appreciate, and premium lots with choice views or adjacent natural resources. Perceptions of what constituted value varied: some compared prices to similar homes in other areas where they had lived while others talked about other homes and subdivisions they had considered before making the final decision about where to buy.

Table 1 Key Factors in Household Decision to Purchase Homes and Lots

Push factors	Pull factors
Avoid urban areas	Location
Job change/ transfer	School districts
Lifestyle change	Access to transportation
Affordable housing	Developer and development factors
Safer for children	Social environment
	Return to childhood environments
	Sense of community and neighborhood
	Seclusion and privacy
	Financial factors
	Natural environment
	Recreation opportunities
	Desire to live in a rural area

The natural environment in residential areas was frequently mentioned when residents were asked why they purchased a home in a particular neighborhood. Both physical and psychological aspects of nature were attractions. Physical aspects of nature included topography and rolling terrain, trees, forested areas, open space, trails, wetlands, lakes, wildflowers, parks, golf courses, gardens, scenic drives, wild animals, horses, nature sounds, and open areas to allow sunlight. Some participants mentioned proximity to natural resources made living further away from urban areas more worthwhile. Also related to nature was the desire to provide a safe and natural setting for their children to play. *Recreation opportunities* within and near the subdivision were also considered when purchasing a home.

The second research question examined the perceived benefits and costs of living in a residential setting with commonly owned open space. The perceived benefits for homeowners of having natural resources and open lands available to them in their neighborhoods, on their properties, and nearby were wide ranging. Building on the work of Driver et al. (1991), responses have been categorized into groups: social, economic, psychological, environmental, and health (Table 2). Another type of benefit was added to capture the positive physical results of having natural resources and open lands in residential areas.

Social Benefits. The focus group data suggest that the social benefits from the presence of natural resources and shared open spaces included a strong sense of community and feelings of belonging. In several neighborhoods, property owners were responsible for maintaining shared open spaces. Often, designated workdays brought neighbors together to share in the common task cleanup and maintenance tasks. Natural and recreation areas also provided common space for people to meet and interact with each other. Pride in ownership of the shared spaces and a sense of stewardship also led to stronger feelings of attachment to the neighborhood and its commonly shared resources.

Table 2 Benefits Derived from Natural Resources Incorporated into Residential Housing

Social Benefits	Economic Benefits
Sense of community and stewardship - residents get together to take care of, neighborhood events, interaction between residents, friendliness, ownership	Appreciation of home - resources are value, added amenities that yield higher home values
Convenience - recreation and exercise near home	
Psychological Benefits	**Environmental Benefits**
Tranquility of being surrounded by nature - relaxing, therapeutic, less stress, calming, isolation	Habitat watching - preserved flora and fauna
Feeling of being on vacation - every day in a vacation-like environment	Environmental education for children
	Nature appreciation - proximity allows for more solid appreciation
Health Benefits	**Physical Benefits**
Open space provides opportunity for exercise recreationally within neighborhoods	Act as a buffer between homes and other land uses
	Privacy as trees provide a sense of distance from other houses

Economic Benefits. Participants felt that living in a neighborhood with natural resources and shared open spaces added value to their property. Several indicated that living in an open space neighborhood led to greater and more rapid appreciation of the value of their property.

Psychological Benefits. In half of the neighborhoods, participants talked about the tranquility, relaxation, and therapeutic benefits associated with the natural environment around them. The environment was free from stress, and many felt like they were in a vacation setting. In neighborhoods with golf courses and other open spaces, residents talked about the "wonder of seeing the early morning and evening skies" and "the dark skies and stars." Others talked about how calming and peaceful it was to "sit on their deck and enjoy the shade."

Environmental Benefits. By living in a natural setting, people gain a greater awareness and appreciation of nature, which in turn fostered a greater sense of environmental stewardship. Many said they were bird watchers and nature enthusiasts and liked living in natural surroundings. Participants talked about the presence of deer and other small forest animals, although some complained about the deer browsing in their gardens. Other residents spoke directly about the educational value of being surrounded by nature. Parents commented about having a natural science laboratory in their yards and in the neighborhood. The natural environment and other open spaces served to teach their children and, at the same time, offering them recreational opportunities.

Health Benefits. During the focus group sessions, residents regularly reported using nearby woods, the mini-parks, trails, golf courses and other open spaces. Engaging in various recreational pursuits, either alone or with family and friends, clearly offers a variety of social and psychological benefits. Although our participants did not explicitly discuss the physical health benefits associated with their walking, playing, or exercising in their neighborhoods, we believe that these benefits exist among many of the residents in a our sampled neighborhoods. It remains to be empirically tested whether those living in neighborhoods where there are abundant opportunities for both active and passive recreational activities are physically healthier than those individuals living in places where those opportunities do not exist.

Physical benefits: These include tree buffers between homes and other nearby development and land uses. One subdivision had a border of commonly owned woods on two sides of the neighborhood that screened both sight and sounds created by surrounding land uses. Residents of that neighborhood commented that this open space provides a peaceful environment to relax in. Residents in another neighborhood said the tree buffers help maintain quiet in the area. Physical benefits may also come in the sense of privacy. That is, trees shield residents from seeing other houses and yards in a neighborhood.

Disbenefits. Besides enjoyment and other benefits of having open space in the neighborhood, home owners also discussed problems or undesirable consequences of living in or near natural areas. These disbenefits can be categorized into distaste for some of the qualities of the natural areas and opposition to the cost of preserving and maintaining the natural areas. A common problem was unwanted habitat and vegetation. Some focus group participants had negative images of natural areas, particularly wetlands. For example, one participant said she sees "the wetland as a swamp." In one Livingston County neighborhood the residents said that there are many rabbits, raccoons, skunks and deer that eat landscaping and sometimes inhabit unfinished homes. Canada geese (and their droppings) were also considered a neighborhood problem in both Livingston and Washtenaw County golf

course communities. Mosquitoes were also seen as a problem that resulted from wetlands and un-mowed grassy areas. Residents also had concerns with trees and plants. Poison ivy was mentioned as a concern. Residents mentioned that trees can be messy which means they have to clean up after them and do not like the extra work. Others mentioned that trees can be frightening in storms and sometimes mature trees block a view.

Research question 3 examined whether living in an open space subdivision discouraged second home ownership "in the north woods." Nine focus group participants (approximately ten percent) owned a second home. Three previously owned a second home and are thinking of buying another in the future. Of the 52 individuals who have never owned a second home, seven individuals expressed interest in buying one while they are in their current primary home. About two-thirds of the participants who answered the second home questions have never owned a second home nor had plans to buying one (3).

Table 3 Second Home History of Households Studied

	No plans to purchase a second home while owning current home	Plans to purchase a second home	Totals
Never owned a second home	45	7	52
Have owned a second home, but not currently	7	3	10
Currently own a second home	7	2	9
Totals	59	12	71

The comments people made during the focus groups may perhaps be more interesting than the second home statistics. Those who did not own a second home did not because of time, money, and lack of interest. One person commented that they gave up the second home idea when they decided to buy in their subdivision because it would have been too much money. Another commented that they had "looked at lots up north, but taxes were too high." Individuals who lived on water felt that they did not need a second home because of their existing lakefront homes. Other residents of lakefront lots were still looking for other lakefront property in Livingston County. Residents of open space neighborhoods said that they had most of the amenities of second homes right in their own neighborhood. One participant said: "living here is like having a place up north." One person commented that "having a cottage made more sense when we lived in more crowded settings. Now, where you go (for a second house) is very similar to where you came from (home in an open space community)." This feeling that current neighborhoods provided close to an up-north experience affected more than second home purchases. A golfer commented that he used to play golf up north, but now Livingston County offers golf courses of equal quality in beautiful surroundings, so he does not take those trips anymore.

Many individuals commented that having a second home was more trouble than it was worth. Some focus group participants mentioned that they were subjected to social pressures to purchase a second home. One person said he "felt influenced by numerous friends who have second homes to buy one." In addition, a neighborhood with many second home owners hurts community interaction. A resident offered, "owning a second home breaks up community interaction, as residents are never around to participate in community events." Another commented that "society has changed how it recreates so much that it is hard to take kids away for a long time. They have organized activities that they can't leave so easily. [He said] people are more likely to rent a place than they are to own one."

Several residents discussed their plans to buy a second home. One person said she "has been thinking about getting a cabin up north... to be closer to nature." A fellow open space resident responded "even more than you are now?" Another resident commented "the only reason they would buy a vacation home is if they were not satisfied with the local lakes if they turn too shallow or mucky." They are currently satisfied with the local natural resources, but would look elsewhere if they were not.

The fourth and fifth research questions pertain to resident developers. Developers were asked to outline desired land features and also comment about concerns about open space and recreation features they were designing for in their open space subdivisions. In general, developers seek land that satisfies their business plans. One of the dominant criteria is whether land costs can be balanced with the price and marketability of homes. For instance, a residential developer calculates the cost per home site (i.e., land), then adds three to four times house value, and then considers the ability to sell that house/lot package. This criterion often prevents affordable housing in an area with quickly rising land costs. Another land criterion is whether

the land or area enables developers to build a subdivision that is a product-market match. This means will the land and corresponding subdivision fit the buying considerations of the consumer market. Some elements of this product-market match include city sewer and water (versus self-contained lot septic and well systems), school system reputation, and highway access. A third criteria considered by developers is the beauty or natural features of the land. Some developers showed greater interest in wooded areas, rolling hills, wetlands, and other nature features because they wanted to create a neighborhood that had some level of environmental sustainability or preservation. A final criteria and probably most important is whether the developer can build the number of houses needed to earn a return on their investment. Housing density is often the incentive for developers to create open space communities. A local area may only allow a minimum of one or two acre lots, however an open space ordinance may allow three-quarter acre lots (or less) with an allowance of land held in common ownership by the subdivision residents.

Developers showed concern for land use particularly on a local level (over regional or state-wide). Land use was frequently referred to as "the rules" that township planning departments imposed on developers. One developer commented "the development rules established by government are really the rules of the game that developers must follow. It is a very controlled process and developers are judged to be bad. Developers just follow local rules which are not always well-thought out." Related to rules, developers were concerned about townships that continue to exercise minimum lot sizes that reflect a rural philosophy. Developers expected these townships to think about the future and make appropriate zoning changes. Developers suggested that these townships think about maximum lot sizes (rather than minimum). They commented that large lot houses consume land which is one reason sprawl exists. The developers we interviewed enjoyed working in progressive townships that promoted open space subdivisions. Some of the developers were creating open space neighborhoods in townships where open space ordinances didn't yet exist. As for recreation features, developers showed some concern over residents cooperating to maintain or enhance open space areas. Cooperation often started with home owner associations and developers had different levels of concern over working with residents after a development was finished.

Conclusions and Implications

Open space subdivisions appear to be an alternative that some consumers' demand and developers are willing to build if appropriate incentives (e.g., a higher permissible density) are in place. Preserved natural features are one of many features that home buyers consider when purchasing lots and/or newly built homes. Furthermore, the benefits of living in a place with open space with natural features such as trees, rolling hills, and wetlands appear to outweigh any negative impacts or costs associated with living in such developments.

In summary, the positive impacts of open space neighborhoods include:

- Preservation - open space neighborhoods preserve original natural resources that otherwise might not be preserved. The cost of preservation is borne by the home buyers, as developers transfer land costs associated with common land to the homebuyers.
- Recreation - open space neighborhoods provide "community" recreation opportunities to its residents.
- Land use - In open space development higher densities result, however, not necessarily less land is being used.
- Rural and natural character is maintained – Open space designs can "camouflage" development by screening them from major thoroughfares and from neighboring developments

Some negative impacts of open space neighborhoods or future concerns were also identified in our research. These include:

- Stewardship and management – private landowners are being asked to "care" for a resource that they might not understand or be prepared to deal with.
- Future ownership – if subdivision associations did not want to take care of the resource –then what?
- Scale of land and resource preservation – open space neighborhoods can create fragmented resources unless a larger master plan that connects open spaces is in place.

Finally, continued research on residential development and stakeholders' interests is needed in a variety of contexts. Our research focused on progressive local initiatives, rather than regional or state initiatives and incentive programs. Future research questions might include: (1) understanding residents' level of knowledge of zoning and open space policies in their local area, and (2) examining residents' perceptions of who controls the land, the natural resources (e.g., lakes, wetlands, prairies), and open space decisions in their area.

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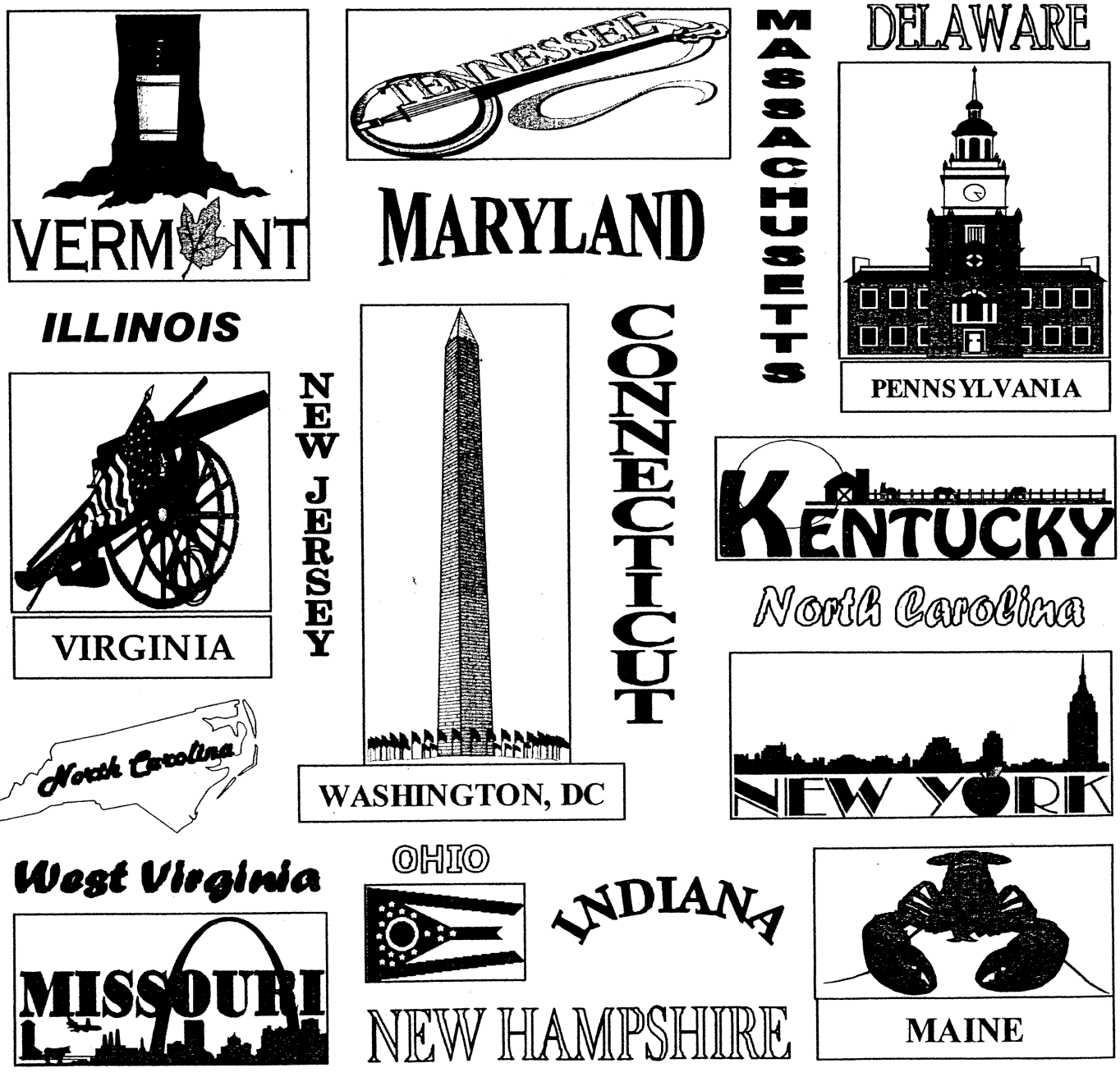

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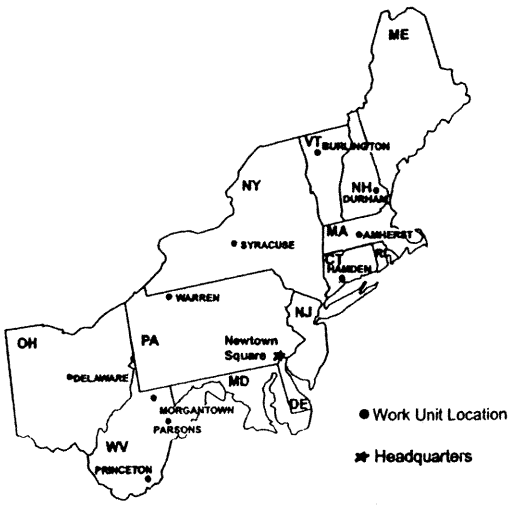

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