ABSTRACT:
The state of public health in America is being significantly eroded by rising rates of Hypertension, Type 2 diabetes, Stroke, Coronary heart disease, and mental illness related consequences of obesity. (CDC Adult Obesity 2017) The small postwar American city is reviewed with emphasis on walkability, food deserts, public health and sedentary lifestyles. Food, both prepared and unprepared as well as social and health screening services, delivered in close proximity (the five minute walk) to ones residence is proposed as an incentive for walking, thus eroding the sedentary lifestyle and mitigating some associated long term health effects. A combination of social movements (parklets), mobile prepared food outlets (food trucks) and social media (Twitter, Facebook) are proposed as enabling elements notifying residents of food or services available, when the food or services will be nearby, and allow for pre-purchasing to insure successful resident's shopping. A network of these parklets is proposed as a public health infrastructure element, much like a municipal water or sewage system. The network insures proximity for residents (five minute walks) and assures vendors of a larger market for their goods and services.

This paper presents a proposal to bring together small public spaces, neighborhood centers, with a social media enabled micro-economy to offer an incentive to sedentary city residents to make a small walk to their neighborhood “parklet” to obtain goods and services. This proposes remodeling the American Suburb. The paper investigates the relationship between the post-war shift from walkable neighborhood designs to auto-oriented neighborhood designs and proposes the pre-WWII approach to walkability, the “Neighborhood Unit” as a part of the solution to the health crisis arising out of sedentary life. This paper focuses on the potential for developing the network of “Parklets” as part of a community’s public health infrastructure. The paper will further introduce the role of a social media enabled micro-economy, the state of city codes and regulations impacting “parklets” across the U.S. and prototype designs of temporary and more permanent “parklets”.

KEYWORDS: Obesity, Environment, Community, Parklet, Social media

INTRODUCTION
This is the third paper authored on the topic of remodeling the American suburb to encourage walking through the deployment of a mesh network of small public spaces built in a few existing parking spaces. The first paper established the historical recognition of the essential nature of the walkable community by landscape architects and planners such as the Olmstead Brothers, John Nolen, and Arthur Comey who developed prototypes for the suburban landscape featuring centralized “Neighborhood Units” which placed, food, dry goods, and essential community services within a 5-minute walk of the residential areas in the suburb. (OBrien, 2017) The second paper argues for the network of parklets as a public health infrastructure element citing costs, metrics for evaluation, and payback projections. (OBrien 2017)

This third paper will include introductory elements of these two papers and focus upon the site selection and social media interaction with the network of parklets.

1.0 Small Urban Spaces, Parklets, Streatery’s and the Popup Plaza

1.1 Parklets Defined
The Oxford English Dictionary defines a “parklet” as “A small seating area or green space created as a public amenity on or alongside a pavement, especially in a former roadside parking space.” The curbside park, the “parklet” could become a small-scale neighborhood public place made a few parking spaces along a street. “Parklet’s” have been built in cities around the world (Birdsall 2013) as both permanent or temporary public spaces as often happens in annual PARK(ING) Day events around the world. (Greco 2012) As such, “parklets” are a fairly recent phenomena, seen more in major urban areas, but are a “capital-investment-lite” approach to retasking a bit of streetside parking for use by pedestrians. (See Figure 1) The “parklet” is frequently one to two parking spaces that have been flagged off from the street to protect the pedestrians, and decked over to bring the surface elevation to curb elevation, then populated with chairs, tables, planters, sometimes even overhead shade and arbors. The temporary construction of “parklets” have been championed by San Francisco’s Rebar Associates “PARK(ing)” day, held world over on the third Friday of September since 2005. Documentation of PARK(ing) day shows the great variation in the design of the 850 “parklets” around the world. (Coombs 2012)
1.2 Streateries
Streeteries are the most common version of the parklet, appearing in cities of the Pacific Northwest. A stretery is effectively a parklet developed for the express purpose of outdoor dining by a coffee shop or restaurant. Spokane, Washington defines a stretery as “up to two parking stalls or a loading zone, as applicable, used either as an extension of, or a stand-alone sidewalk café, connected visually to, and for the use by patrons of, a nearby restaurant or bar and service at which is subject to all the terms and conditions of the nearby restaurant or bar food service permits and alcohol licenses.” (Spokane 2017) Because of the functional and revenue-generating nature of a stretery, there seems to be many more streeteries than parklets enduring in urban landscapes. Seattle is actively promoting streeteries as a means to enhance the vibrancy of its streets. (Seattle 2015)

1.3 Popup Plazas
The popup plaza by comparison is much larger and usually more temporary than the stretery or the parklet. Popup plaza’s may be installed on public rights of way or public property for durations lasting as little as three hours (Boston Globe 2016) to six weeks (Yelp, 2014) in Louisville, KY as a beer garden for a festival. A few popup plaza’s become permanent, Larkin Square in Buffalo, NY is one such example sited on a former gas station, it is now home to food trucks, music, trees and popup shops. (Greco 2012)

Taken as a whole, Parklets, Streeteries, and Popup Plazas are all examples of what planners call tactical urbanism, low-capital investment strategies that activate the public realm. But could they do more? Could these "urbanism-light" installations help us be healthier?

2.0 Environment and Public Health

2.1 The Charter for New Urbanism
As early as 1999 The Charter for New Urbanism posited a connection between neighborhood design and sedentary lifestyles. (Leccese 2000) This was one of the early connections between environment and health, supported by the 1996 Report of the Surgeon General of the United States that found 60% of Americans were not physically active. (Health and Human Services (HHS) 1996) The Surgeon General’s report goes on to list the following as disease and injuries for individuals that could be reduced with modest increases in daily physical activity. (HHS 1996)

- Cardiovascular Disease,
- Colon Cancer,
- Diabetes,
- Osteoarthritis,
- Osteoporosis,
- Falling,
- Obesity.

The report went on to say “efforts must be made to encourage physical activity within the course of the day and to create environments in communities, schools, and workplaces that afford maximum opportunity to be active.” (HHS 1996) At the time of this writing, 2017, the Surgeon General’s call to make the environment a supportive force in the prevention of sedentary related diseases remains largely unheeded.

Without Clarence Perry’s Neighborhood Unit, we have become tied to our automobiles to undertake even the simplest shopping tasks. Perhaps the time has come to re-envision the Neighborhood Unit in a contemporary way.

Recently, temporary pedestrian spaces have been installed in many cities by using streetside parking spaces – already publicly accessible within the street right of way. This eliminates the need to purchase land for the parklet networks allowing its development without purchasing land or making substantial capital improvements. These “micro parks” or “parklets” offer the potential to reclaim a bit of automobile territory in service of the neighborhood. Part IV of this paper will examine “parklets” in more detail and consider their role in the delivery of goods and services within an easy walk of most residents.

3.0 Case study: The Candy Hill Neighborhood

3.1 Candy Hill Overview
The Candy Hill Neighborhood is located North of downtown Bryan, Texas. It is chosen as a case study because of its being underserved with food and retail establishments and a history of mobile vendors. (Nash 1996) Candy Hill is bounded by Waco Street on the North, Military Drive on the South, The Bryan City

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Cemetery on the West, and the Federal Prison Camp on the East. The neighborhood is approximately 62 acres in area, and while much of its housing was developed in the mid 1970’s, it was an established neighborhood in the late 1940’s and early 1950’s as a segregated housing district for the nearby Army Air base. It is generally flat with scattered street and neighborhood yard trees. The center of this neighborhood is only one mile from the “downtown” area of Bryan, but like many older downtowns, one cannot purchase groceries, or visit a doctor as those functions have long since relocated away from the downtown area. (See Figure 1.)

**Figure 1.** Candy Hill Neighborhood between the cemetery and prison camp. (Google earth V. 7.1.8.3036, (1/17/2017). Bryan, Texas, USA, 30° 40’ 55”N, 96° 21’ 96”W, Eye alt 7587 feet)

Median income in the Candy Hill neighborhood is $27,743.00 and 10% of the residents self identify as college educated. Over 70% of the housing in the neighborhood is owner-occupied and 63% of the residents are married. One-quarter of the residents make a commute to work of less than 25 minutes, and 60% of the unmarried population is Male. (Trulia, 2017) While the greater Bryan city area has a higher crime rate than the U.S. average, the Candy Hill Neighborhood reports few instances of criminal activity.

The closest full-service grocery store is approximately 1.5 miles away, and the nearest medical facility is approximately 2.0 miles away.

### 3.2 Candy Hill in memories.
In the book “Bigmama Didn’t Shop at Woolworth’s” author Sunny Nash collects memories and anecdotes that document the hopelessness, violence, and insecurity that characterized the culture growing up in the Candy Hill neighborhood in Bryan, Texas in the 1950’s and 60’s. In her book, Ms. Nash recalls her mother buying ice, vegetables and fish off of trucks that came through the neighborhood; she noted that “Farmers drove their trucks through the neighborhood every week selling seasonal produce” (Nash, 1996)

### 3.3 Candy Hill; Walkability and Climate
How far will people walk in the Candy Hill neighborhood? In 1929, Clarence Perry proposed 5-minute (quarter mile/.4K) was as far as most people would want to walk for goods and services, and this seems to hold true today as a general rule for planners. (Harris 1998) Recent scholarship (Mehaffy 2015) has been critical of the idea of a neighborhood based on Perry’s model because it assumes a school as the center of a ¼ mile service radius, which in turn was based on the average size of the American family, which has changed from Perry’s 1929 frame of reference. However, climate may play a larger role in establishing the service radius for the parklet. While Perry formulated that principle in the context of the cities of the Northeast where the weather was mostly walkable, in Bryan, Texas, the 5-minute walk in summer is likely to take place in 80 to 105 degree Fahrenheit (26 to 40 C) and in humidity that might range from 50 to 85% RH.

The United States Environmental Protection Agency lists this combination of temperatures and humidity as “caution” to “danger” of heat-related disorders “with prolonged exposure or strenuous activity.” The effect of heat and humidity varies with age, gender and an individual’s acclimatization to the exposure. (Coco 2016) In urban plazas, and in walking to and from plazas, we are more concerned with the perception of comfort in
people than simple temperature and humidity charts. Mayer and Hoppe (1987) developed a model to measure human comfort that accounted for metabolic, radiative, conductive modes of heat transfer experienced by people. Their model, the Munich Energy-balance Model for Individuals, (MEMI) is the basis for arriving at the Physiological Equivalent Temperature (PET). While studies by show that Japanese residents preferred shaded areas of parks and plazas when temperatures rose above 68 degrees Fahrenheit (20C) (Thorsson 2007) research establishing “comfortable” walking distances at high temperatures, high humidity and low wind-speeds are difficult to find. (Brown 2017) Personal experience (mine) tells me that a home-to-destination distance of 5-minutes, yielding a 10 minute round trip, at typical summer temperatures/humidities/windspeeds will usually result in extreme perspiration, significant enough to become a strong disincentive to walk. (See Figure 2).

**Figure 2.** The 5-minute walk radius overlaid upon the Candy Hill neighborhood. (Google Earth V 7.3.1.4507. (February 5, 2018). Bryan, Texas, USA. 30° 40' 53.44"N, 96° 21' 38.28"W, Eye alt 2915 feet)

Figure 2 shows that a 5-minute walking radius easily encompasses the neighborhood. The next step might be finding a location for our proposed “parklet”. The center of the radius falls on the “New Direction Worship Center” on Martin Luther King Jr. Street. Two parking spaces near the Worship Center would be an ideal site for the “parklet” as there are no businesses nearby that might be concerned about competition and the Worship Center is already a community service type of organization. This possible “parklet” location is also on a low-speed street, 30 mph (48 KpH), and has a public sidewalk adjacent to the street. (See Figure 3)

**Figure 3.** Possible Candy Hill Parklet location. (Google Earth V 7.3.1.4507. (February 5, 2018). Bryan, Texas, USA. 30° 40’ 55.58”N, 96° 21’ 40.53”W, Eye alt 850 feet)

Drawbacks to the location are the shortage of shade, requiring some shading device or more substantial portable planters, and a nearby driveway that would have to remain unobstructed, but a two-parking space “parklet” would be physically possible on the site and is located near the heart of the neighborhood.
3.4 Siting regulations
At this time, Bryan, Texas has no regulations governing the process, sitting, setbacks, construction or management of "parklets." Many cities across the United States have developed design guidelines and helpful manuals to assist residents in the safely locating, constructing and operating a "parklet." San Francisco, Philadelphia, and Minneapolis are among the major cities with such manuals and regulations but even smaller cities like Bethlehem, Pennsylvania are providing residents support for "parklet" development.

San Francisco has an especially well assembled guide to parklet siting. The criteria for location of the parklet is simple: it must be at least one parking space from the corner, it may be a single or multiple parking space(s) that can be parallel, diagonal, or perpendicular to the curb, parklets should be located on streets having a 5% or less running grade, parklets may not infringe upon accessible (blue) parking spaces or in fire access (red) zones, parklets may not obstruct bus stops or transit stops, must be 48 inches set back from adjacent parking spaces and 12 inches from traffic or bicycle lanes. (San Francisco 2015)

Given restrictions such as these a parklet in the Candy Hill neighborhood, and in the Worship Center area should not cause many problems.

3.5 Parklet Management
Who owns, operates and looks after a parklet? The city of Los Angeles has very clear guidance on this matter. Any parklet needs to be developed with a "Community Partner" who holds the following responsibilities:

- Seek appropriate licensed professional guidance to finalize plans for submission to the city for approval (may be pro-bono)
- Qualify as a grant recipient for design, construction and maintenance support as available
- Purchase materials and components for the parklet
- Contract with a local licensed and insured contractor for the construction of the parklet
- Maintenance and upkeep of the parklet, plant materials, emptying trash, replacing dead plant materials, keeping the parklet in good repair (free of pests and vermin)
- Secure moveable furniture (if any) between 7 A.M. and 10 P.M.
- Provide and maintain a $1 million dollar General Liability Insurance plan for the parklet
- Maintain ADA accessibility to the parklet
- May not restrict access to the parklet

3.6 The Parklet Network
To be successful in reaching the majority of residents in Bryan, Texas, the "parklet"/popup plazas must be conveniently located within a 5-minute walk of a citizen’s domicile. For a city such as Bryan, with its population spread over the approximately 5,000 acres of residential development a series of approximately 39 parklets would service most of the population.

Figure 11. Series of 39 parklets within a 5-minute walking distance service radii, overlaid on the residential districts of the city of Bryan, Texas. (Google Earth V 7.3.1.4507. (February 5, 2018). Bryan, Texas, USA. 30° 39' 52.60"N, 96° 21' 28.05"W, Eye alt 44215 feet)

This network of parklets must have an identity in the neighborhood and in the network of neighborhoods, and must be actively scheduled, with vetted, dependable vendors. (See Figure 11)
In the case of both "parklet"s and popup plazas, ongoing costs to suburban government might only be the cost of a citywide micro-economic developer, and vendor coordinator, but could also become a "parklet"/popup plaza sponsor itself. First and operating costs should be weighed against the potential economic development impact of creating a mobile vendor industry to service these parklets for year-round dependable availability of goods and services to residents. Assuring this dependability would become the role of an economic developer, not one focused on the next mega development or massive chicken processing plant but one who is charged with developing the small and micro business community, a "micro-economic-developer."

The role of the city’s micro-economic developer would be to educate and assist vendors interfacing with health departments and other city/state agencies to obtain the necessary training, permits and inspections to operate their small business. The micro-economic developer, as a vendor advocate, also help vendors interface with financial institutions and the Small Business Administration to find financing, mentorships, and develop business management skills beginning in the local high schools entrepreneurship programs. Local governments could even go farther than mentorship, establishing their own loan/equipment pool program to help bootstrap a new vendor into a tricycle, a pickup truck or food truck or trailer. Local service organizations might be recruited into this effort through their missions or projects for economic development, public health, or community well-being.

Given the number of small businesses, particularly those selling fresh or prepared foods that fail each year, this micro-business approach might allow motivated people who don’t have access to the capital necessary to lease/purchase, equip, train, and then open a small food related business. It may be possible to use some of the “failed” food preparation capacity in the city to make a food business incubator of sorts, similar to a multi-chef performance kitchen seen so often in the media. Such capacity lays idle in many towns like Bryan, equipment in place waiting for the next renter, or in the case of the massive mobile kitchens maintained by relief agencies, the next disaster. These could become the production centers for micro-entrepreneurs servicing the parklet network and paying for equipment used on a time or transaction basis.

4.0 Proposed Evaluation tools

4.1 Evaluation overview:
As the proposed mesh networks of parklets would be incrementally developed across the suburban landscape of Bryan, Texas, the case study location for this paper, so too the evaluation process would be implemented to provide an understanding of the preconditions of each site to the planning and transportation departments of Bryan and the people of the neighborhoods.

Since the primary motivation in developing this mesh network of parklets is the health of the people in the suburban landscape of Bryan, evaluation would ideally occur in the following three domains: Public Health, Public Life Quality, and Economic Impact.

The public health evaluation would be developed in a partnership with the The Center for Community Health Development in the School of Public Health at the Texas A&M Health Science Center as this organization regularly conducts the Brazos Valley Health Status Assessment. The Public Life Quality evaluation would be developed from the LA DOT “People Street” methodology as adapted by the City of Bryan and ideally would be led by personnel from the Departments of Planning and Transportation and the Economic impact would be led by the Research Valley Partnership’s, small business development center; the economic development team allied with Texas A&M, Brazos County, and the cities of Bryan and College Station Texas.

4.2 Case Study in Health Assessment: The Brazos Valley Health Assessment
In the Brazos Valley, home to the case study location of the proposed mesh network of parklets, Bryan Texas the The Center for Community Health Development in the School of Public Health at the Texas A&M Health Science Center conducts a series of community conversations involving over 5,000 residents around the issues of public health on a triennial basis. These conversations form the qualitative dataset for the health assessment while data collected from secondary sources (Census data, Centers for Disease control data, State public health data) to establish the information basis for the health assessment (Center for Community Health).

4.3 Case Study in Parklet Assessment: Los Angeles Department of Transportation (LADOT) “People Street”
In Los Angeles, Parklets, Streateries, and Popup Plazas are promoted and regulated under the “People Streets” program which began in 2013 (LADOT 2013). The “People Street” evaluation process begins upon city and neighborhood approval of a potential parklet site and consists of a:

1. Pre-Installation public life survey, which uses a combination of site observations of types of traffic flows (pedestrian, bicycle, automobile, public transit) broken down by age and gender at multiple times of the day and publicly available data such as number and severity of traffic offenses, criminal offenses, accidents and their severity on the site (pedestrian/vehicle, bicycle/vehicle, pedestrian/bicycle) and sales tax receipts of businesses within the study area.

2. A Pre-Installation Existing conditions report containing an analysis of the above data combined with descriptions of both the proposed parklet site and the boundaries of the study area.

3. A Post-Installation public life survey undertaken using the same combination of observational methods, and publicly available data.

4. A Post-Installation project evaluation report containing the analysis of pre and post installation data as well as description of the parklet site, parklet construction, maintenance records and assessment, and the study area boundary.

5.0 Conclusions

This proposed networks of parklets, distributed across the suburban landscape of Bryan, Texas could impact the public health through increased walking/reduced driving to procure daily food needs. If implemented this parklet network, serviced by a micro economy made up of social media enabled vendors, should result in the reduction of the food desert phenomena as well.

The primary goal is to provide a place to walk to (parklets) and a purpose (food/services) in order to reduce the negative impacts of a sedentary lifestyle on the residents.

Secondary goals include: (1) increased neighborhood cohesion, and (2) developing pathways to business for under-capitalized individuals not able to start up a brick and mortar storefront.

It has been over 20 years since the Surgeon General of the United States issued this call for changing the built environment “efforts must be made to encourage physical activity within the course of the day and to create environments in communities, schools, and workplaces that afford maximum opportunity to be active.” (HHS 1996). Beyond a few upscale New Urbanist communities, the design disciplines have not addressed the issue while voracious developments continue to consume the landscape, placing more and more people farther and farther from the essentials of life, and thus maintaining a dependence on the car, and often eliminating pedestrian paths and walks from developments under the guise of “efficiency”.

This proposal, admittedly ambitious, is an effort to show that there are low-capital investment tactics that can be used by design professionals, in partnership with neighborhoods, local governments, and service organizations to begin to turn the tide against sedentary lifestyles that are associated with chronic, expensive, and life debilitating disease.

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