### **CONNECTING TO CARE**

Healing Hands Ministries, the Relationship of Public Transportation to Community Health, and Options for Enhanced Transit Service

HEALING HANDS MINISTRIES NOVEMBER 2014



#### PREPARED BY

The buildingcommunityWORKSHOP is a Dallas based nonprofit community design center seeking to improve the livability and viability of communities through the practice of thoughtful design and making. We enrich the lives of citizens by bringing design thinking to areas of our city where resources are most scarce. To do so, the bcWORKSHOP recognizes that it must first understand the social, economic, and environmental issues facing a community before beginning work.

#### SUPPORTED BY

As the largest community foundation in Texas and one of the largest in the nation, Communities Foundation of Texas (CFT) works with families, companies and nonprofits to strengthen our community through a variety of charitable funds and strategic grantmaking initiatives. The foundation professionally manages more than 900 charitable funds and has awarded more than \$1.3 billion in grants since its founding in 1953. Increasing financial stability of working families is one of the two key focus areas of CFT's community impact funds. To support this area, CFT as launched the Data Driven Decision-Making (D3) Institute. The D3 Institute is designed to provide organizations that offer programs and services for low-income working families the power to accelerate their development of enduring solutions to the social and economic problems facing this population. www.cftexas.org/D3





### **HEALING HANDS MINISTRIES**

As a non-profit community clinic that provides affordable, often affordable care for high health risk individuals in Dallas, Healing Hands Ministries plays a critical role in stabilizing the local health crisis. In addition to providing quality care to individuals with co-morbidities, Healing Hands has expanded their dental services and recently began providing health services to a growing number of refugees.

In 2013, Healing Hands relocated to 8515 Greenville Avenue in the Lake Highlands area of Dallas to a high quality, highly visible facility with increased capacity to accommodate their growing client base and expanding services. Additionally, the facility is centrally situated with regards to Healing Hands existing and target client base. To continue improving their service delivery, this study explores the importance of transit access to healthcare for at-risk populations, analyzes current access to Healing Hands site, and outlines potential options for enhancing that access.

### **ABOUT THIS STUDY**

Healing Hands chose to engage bcWORKSHOP as part of an additional consulting service offered through the Communities Foundation's Data Driven Decision-Making (D3) Institute. bcWORKSHOP is providing Dallas area nonprofit organizations with a data analysis package to inform decision-making on a specific problem or challenge defined by the non-profit.

### **EXECUTIVE SUMMARY**

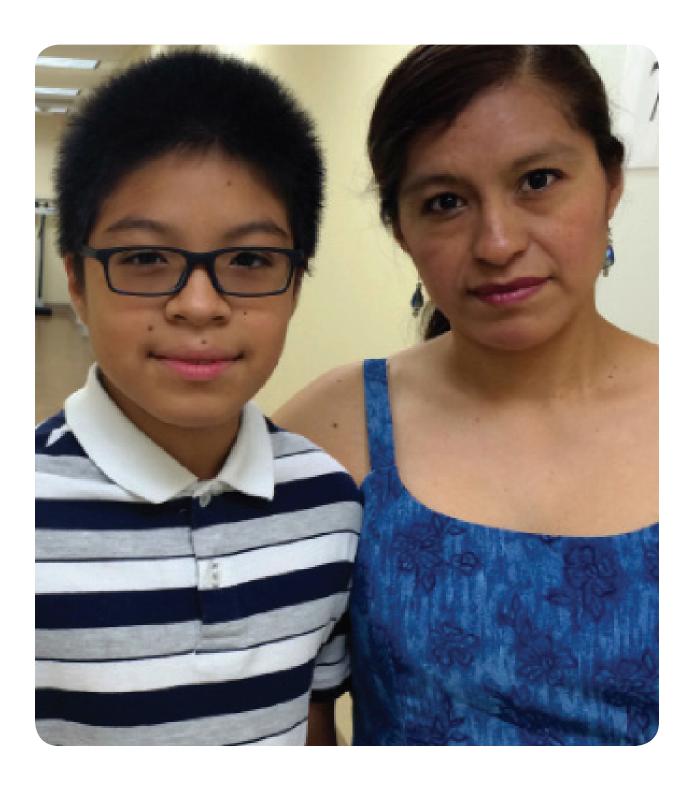
Four of the primary challenges that negatively impact the health of Americans are:

- (1) The high cost of healthcare
- (2) The high rate of uninsured
- (3) The high rate of poverty
- (4) Poor transportation access to care

By providing affordable healthcare to thousands of uninsured patients earning at or below 200% of the poverty level, Healing Hands Ministries effectively and compassionately remediates three of these challenges for people in the Lake Highlands and greater Dallas area.

Currently, however, Healing Hands Ministries is underserved by public transportation, and patients seeking to use their facilities must walk more than one-half mile from the nearest bus stops along inhospitable and fast-moving arterial roads. To more effectively serve a greater population in need, Healing Hands Ministries must be better connected to the Dallas Area Rapid Transit system.

This report will argue for enhanced transportation access for Healing Hands Ministries by drawing attention to the heightened significance of their service provision due to the severe need for quality, affordable healthcare in Dallas; demonstrating the breadth of scope and quality of care Healing Hands provides patients; revealing the inadequacy of transportation connectivity surrounding the intersection of Greenville Avenue and Royal Lane; and recommending several paths forward for pursuing improved integration into the Dallas Area Rapid Transit transportation system.



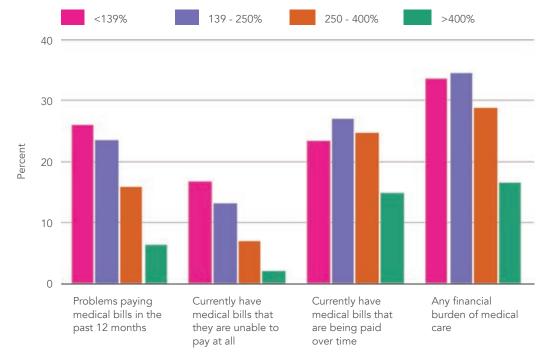
# COMMUNITY CARE: THE NEED

The Challenges and Costs of Accessing Health Care

Health care in America is expensive and often difficult to access. The cost, accessibility and availability of health resources disproportionately impacts the poor and the uninsured. According to the Kaiser Commission on Medicaid and the Uninsured, in 2013, "30% of uninsured adults went without needed care each year due to cost". An additional one-third of uninsured adults postponed seeking care because it was too expensive, compared with 12% of the publicly insured and 7% of individuals with employer or private insurance. (1)

In turn, the poor are disproportionately uninsured. In 2013, 27% of the uninsured in America were below the federal poverty level and 58% were below 200% of the federal poverty level. (2) Not only do the poor have greater difficulty accessing healthcare, but receiving treatment can perpetuate or exacerbate their poverty. According to Kaiser Commission on Medicaid and the Uninsured, nearly 40%

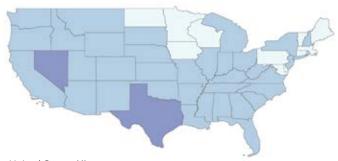
### American Families Financially Burdened by Medical Care Costs by federal poverty level, 2012 (3)



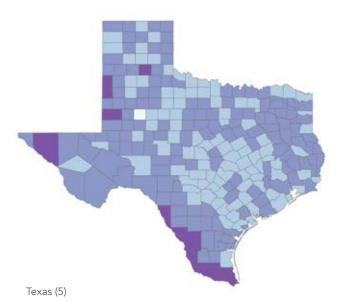
National Center for Health Statistics

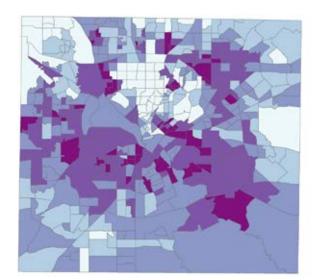
### Percent of Population without Health Insurance



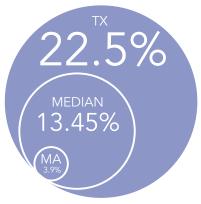


United States (4)





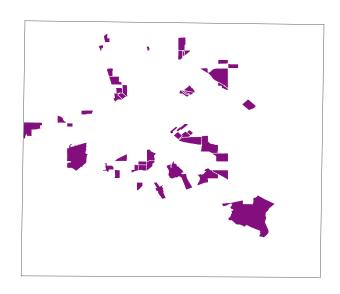
Dallas County (6)



The rate of uninsured in Texas is nearly **6x** that of Massachussetts and **2x** that of the median among states.

Dallas ranks **224th** out of all Texas counties (254) in rate of insured people, accounting for almost **12%** of the states uninsured.

In **26** Dallas census tracts, **50%** or more of the population lacks health insurance.



of the uninsured have outstanding medical bills and 20% of the uninsured report that medical bills led to "serious financial strain." (7) Similarly, the National Center for Health Statistics reported that about half of families at or below 250% of the Federal Poverty Level (FPL) have had problems paying medical bills in the past twelve months and almost four out of five families earning at or below 250% FPL have experienced financial burden resulting from medical care. (8)

Finally, only one-third of uninsured adults made preventive visits to the doctor. The National Center for Health Statistics reported that in 2012, approximately one in four people at or below the FPL did not have a "usual place of care." (9) The lack of primary care, whether due to cost or other access barriers, has rippling costs, causing undue economic strain on the larger population in the form of preventable hospitalizations and emergency room visits, and lasting health impacts on those unable to receive care.

According to a study by the Center for Disease Control, income disparity has a major impact on hospitalization, with a major associated cost. "During 2009, if residents of the lowest income neighborhoods had the same rate of hospitalizations as residents of the highest income neighborhoods, they would have had approximately 500,000 fewer hospitalizations and saved \$3.6 billion," in costs (10). The CDC further posits that increased utilization of primary care would greatly reduce the number and cost of hospitalization for low-income patients.

The poor are more likely to suffer from heart disease, emphysema, asthma, diabetes, and a variety of mental health symptoms. People in poverty are far more likely to report their health status as fair or poor (11).

While the American Care Act is projected to positively impact access and cost for many uninsured low-income Americans, these impacts will have lessened impact on Texas, which has chosen not to expand Medicaid. The community care services that Healing Hands Ministries offer are so important because they are tailored to these poor and uninsured populations, and are always made affordable.

### LOCAL CHALLENGES

Poverty and the Uninsured in Dallas

The need for quality, affordable health care for people living in poverty is well established. The related burdens of high healthcare costs and negative health conditions is particularly problematic in Dallas County, where nearly one in five people suffer from poverty. Of the 41 U.S. counties with populations greater than one million in 2012, Dallas had the eighth highest percentage of residents living in poverty. Among families, the poverty rate in Dallas is greater than that of both Texas and the United States, and is nearly triple that of Collin County. (12)

Compounding the increased susceptibility to chronic health conditions facing those suffering poverty, Texas and Dallas in particular have inordinately low rates of health insurance coverage. Texas has the lowest rate of insurance coverage among all U.S. states. On average, Texans are nearly six times more likely to be uninsured than residents of Massachusetts, the state with the greatest insurance coverage. (13)

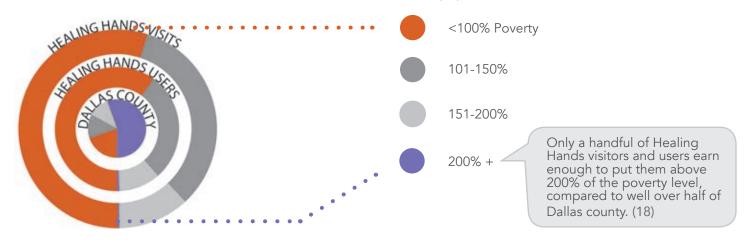
The crisis of scarce health insurance coverage heightens at the local level. Among Texas counties, Dallas ranks 224 out of 254, ranking in the bottom twelve percent. Not only does Dallas County have almost twice the rate of uninsured residents as Collin County, more uninsured people are living in Dallas County than the total population of Denton County. (14)

Low insurance coverage and high poverty translates into poor health outcomes for Dallas County. Among the ten most populous counties in Texas, Dallas has the third worst health outcomes (a metric composed of subjective or experiential quality-of-life measures and premature death), the worst length of life, the third worst health factors (a metric that combines data on healthy behavior, clinical care, social and economic factors and physical environment). (15)

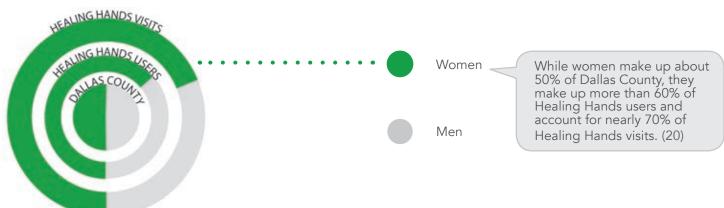
### HEALTH RANKINGS: TEN MOST POPULOUS TEXAS COUNTIES(16)

COUNTY	HEALTH OUTCOMES	HEALTH FACTORS	LENGTH OF LIFE	QUALITY OF LIFE	CLINICAL CARE	ACCESS TO CARE
Bexar	10	6	8	8	5	5
Collin	1	1	1	2	1	1
Dallas	8	8	10	6	7	8
Denton	2	3	3	1	4	3
El Paso	7	9	6	10	9	9
Fort Bend	3	2	2	5	3	4
Harris	9	7	9	7	8	7
Hidalgo	6	10	5	9	10	10
Tarrant	5	5	7	4	6	6
Travis	4	4	4	3	2	2

#### POVERTY STATUS OF HEALING HANDS CLIENTS (17)



#### **SEX OF HEALING HANDS CLIENTS (19)**



#### RACE & ETHNICITY OF HEALING HANDS CLIENTS (21)



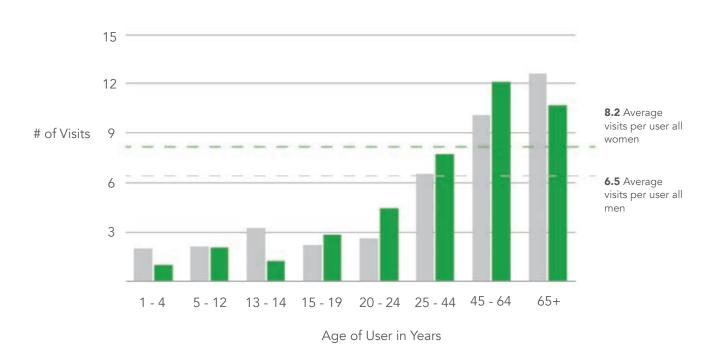
### **COMMUNITY CARE**

Healing Hands Ministries

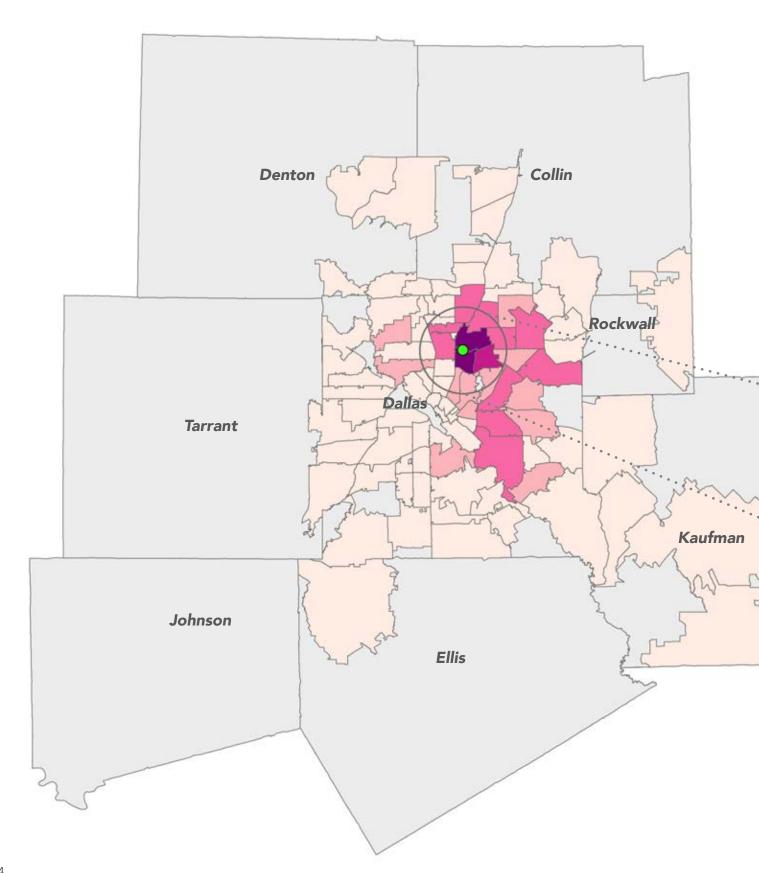
Community health providers are the primary combatant of inadequate healthcare access and poor health conditions among the impoverished and the uninsured. In general, community clinics are located in medically underserved areas and provide healthcare to low income populations. Segments of the community health universe are federally defined, such as federally qualified health centers (FQHCs) which receive federal funding if they "serve an underserved area or population, offer a sliding fee scale, provide comprehensive services, have an ongoing quality assurance program, and have a governing board of directors." (22) These requirements have their own definitions. For instance, medically underserved areas/populations are "areas or populations designated by HRSA (Health Resources and Services Administration) as having: too few primary care providers, high infant mortality, high poverty and/or high elderly population." (23) Many community clinics, however, resemble federally qualified health centers but do not receive federal funding.

One such organization is Healing Hands Ministries, a faith-based community clinic that provides quality medical and dental care to the uninsured of Lake Highlands and adjacent Dallas communities. Rather than leverage public funding, Healing

## HEALING HANDS CLIENTS AVERAGE NUMBER OF VISITS ( PER USER BY AGE ) (24)



### CLIENTELE GEOGRAPHY (25)



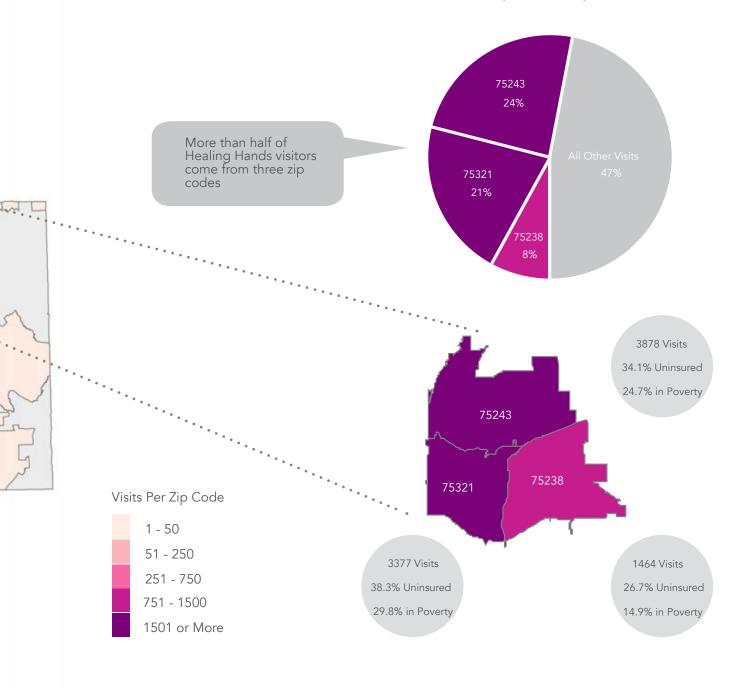
Hands relies on volunteers and donors. Healing Hands was the first charity clinic in Texas to be certified by the National Committee for Quality Assurance, a national non-profit dedicated to improving health care quality through the creation and administration of evidence-based standards.

Healing Hands serves almost exclusively the poor or near poor, who earn at or below 200% of the FPL. Additionally, all of Healing Hands clients lack health insurance, private or public.

While a large number of Healing Hands clients come from its immediate surroundings, over the past year the clinic served clients from seven counties and 93 zip codes. The typical Healing Hands patient is a young to middle-age hispanic woman, with income below the poverty line, uninsured, with co-morbidities. The most frequent diagnoses are hyperlipidemia, hypertension and diabetes, often co-occurring.

Over the past several years, Healing Hands has expanded their capacity to provide healthcare to the underserved and uninsured in Dallas both through an expansion of the type of care provided and of volume of patients seen.

### GEOGRAPHIC FOCUS: ZIP CODES 75243, 75321, 75238 (26, 27)

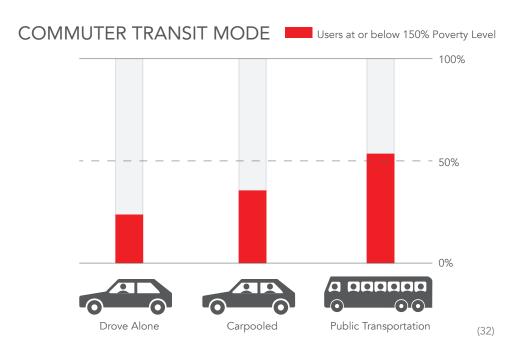




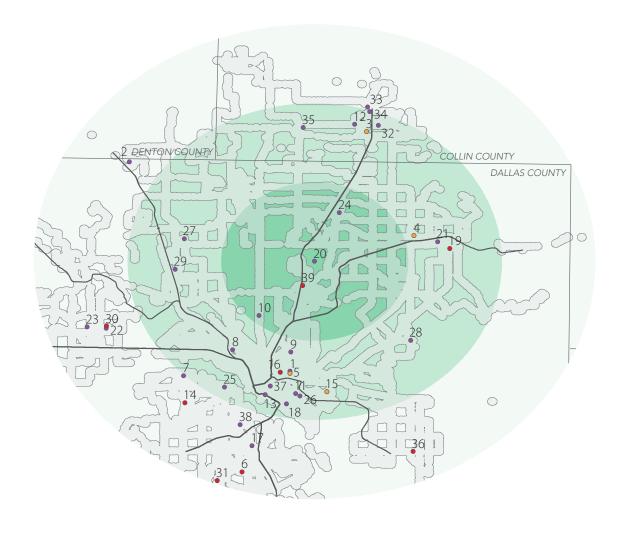
# TRANSPORTATION & HEALTHCARE ACCESS

In order to benefit from the important care that Healing Hands provides, patients must be able to reach the facility. This simple fact may create difficulties, for Healing Hands average patient, however, particularly because the facility is underserved by public transportation. According to a report by the Transportation for Healthy Communities Collaborative, "inadequate transportation is one of the primary reasons that low-income families miss, or forego scheduling, medical appointments. The problem is particularly acute with chronic and preventative care, and when children have to be transported as well." (28) While there is limited data on the topic, in a study entitled "Barriers to healthcare access in a non-elderly urban poor American Population", more than 30% of a surveyed population in Dayton, Ohio reported difficulty finding transportation as a barrier to obtaining healthcare. (29)

Public transportation is an important transit mode for people living in poverty. Buying, owning and maintaining a car is often prohibitively expensive. In the city of Dallas, only about 4% of workers aged 16 and over use public transportation to commute to work, but many of those workers are poor. 23% of workers in Dallas are at or below 150% of the poverty level compared with 54% of transit users. (30) The median earnings of workers who commute using public transportation that reside in Dallas County is slightly more than half the median earnings among all workers. (31)



### **CLINIC LOCATIONS & TRANSIT ACCESS**



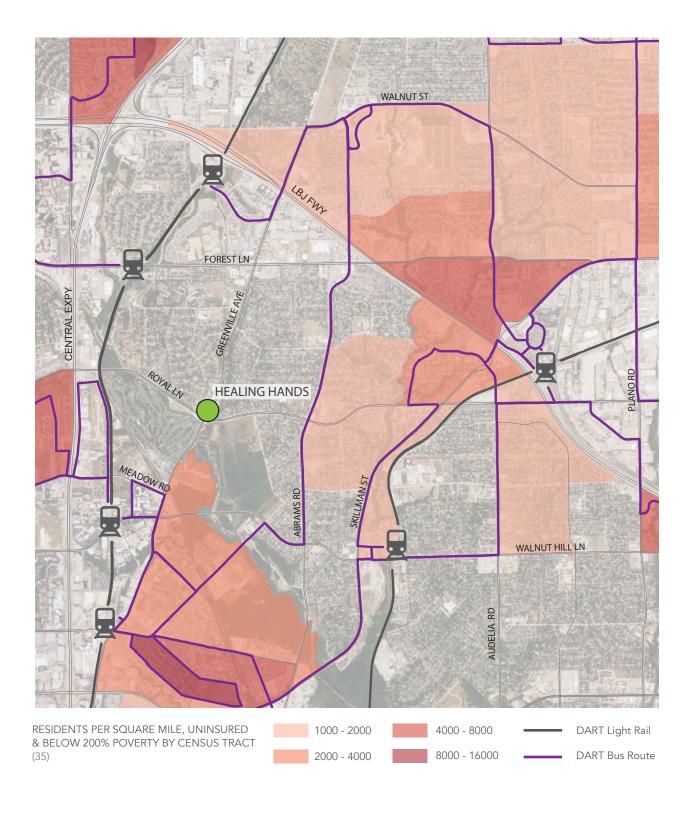


The map above illustrates both Healing Hands relative distance from other community clinics within a fifteen mile radius (implying its service area), and its disconnection from existing transit routes. Bus routes are shown as a 1/4 square-mile buffer around each stop location, representing the approximate walkable area that each line serves. (33)

# ON MAP

CLINIC

DISTANCE TO NEAREST TRANSIT STOP



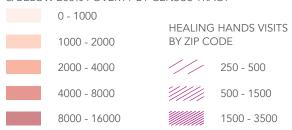
## HEALING HANDS & LOCAL CONTEXT

Healing Hands Ministries is well positioned within Dallas to serve its target population of people living near or below the poverty line and lacking health insurance. Two of the five census tracts in Dallas with the highest densities of residents who are uninsured and living at or below 200% of the poverty line are within three miles of Healing Hands location at the intersection of Greenville Avenue and Royal Lane. In seven census tracts within three miles of Healing Hands more than one-third of the population lacks health insurance and is at or below 200% of the poverty line. The proximity of Healing Hands to these populations should give these populations a viable option for high-quality affordable health care.

### EXISTING HEALING HANDS CLIENT BASE & HIGH NEED AREAS, DALLAS COUNTY

The map to the right depicts the significant extent to which Healing Handvs already serves populations in the highest need areas, where the largest numbers of Dallasites live uninsured and in poverty, both in its own backyard and along the eastern edge of the city and into Mesquite and Garaland.

### RESIDENTS PER SQUARE MILE, UNINSURED & BELOW 200% POVERTY BY CENSUS TRACT





### EXISTING HEALING HANDS CLIENT BASE & CURRENT TRANSIT USERS

The map to the right depicts the significant extent to which Healing Hands serves populations in areas with high transit use. Considering the correlation between poverty and poor health and health conditions, and between poverty and transit usership, it is safe to assume that given the opportunity, more potential patients with serious health needs would be able to reach Healing Hands and with greater ease.

### PUBLIC TRANSIT COMMUTERS BY CENSUS TRACT

BY CEN	ISUS TRACT		
	0 - 24		HANDS VISITS
	25 - 61	BY ZIP C	ODE
	62 - 110	///	250 - 500
	111 - 184	11/1/1	500 - 1500
	185 - 321		1500 - 3500



(37)

### **OPTIONS FOR TRANSIT**

A number of factors were considered in analyzing how to best improve the quality of public transportation service for Healing Hands Ministries. These factors can be divided into two over-arching categories: Transit Viability and Healing Hands Coverage. These factors were considered in relation to two possible solutions for enhanced DART service: Alter Existing Route or Establish New Route/Implement Shuttle Service. Below is a more thorough explanation of the important factors analyzed for each potential solution.

1

#### **ALTER EXISTING ROUTES**

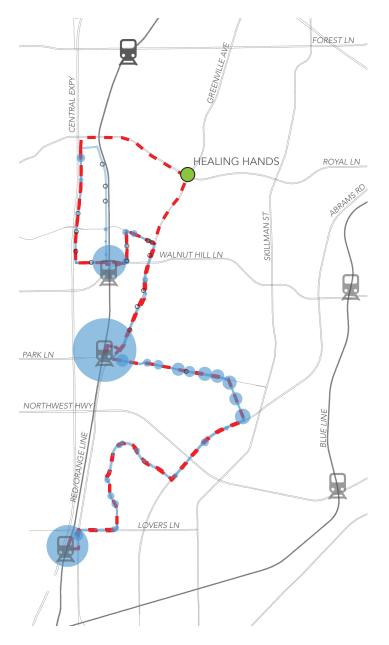
All routes that stop within 2 miles of Healing Hands were analyzed in an attempt to identify redundant, un-utilized, or inefficient service. Would any existing routes be improved by rerouting to serve Healing Hands Ministries? Transit viability factors included comparing businesses, employees and residents within 1/4 of existing transit stops, current ridership levels with a focus on stops that had zero or few riders and overlapping service areas or transfer points. Rail, transfer center and major destination connectivity (as identified by DART) were also considered. Healing Hands coverage factors that were prioritized included direct or one-transfer connectivity to major target population areas and areas with high concentrations of existing Healing Hands patients.

2

#### **ESTABLISH NEW ROUTES/SHUTTLE SERVICE**

Having reviewed existing routes, new routing options were analyzed based on their potential to enhance system connectivity and expand coverage area while minimizing costs associated with time and distance. Transit viability factors included businesses, employees and residents within 1/4 mile of a proposed route, enhanced rail connectivity, expanding coverage area, time and distance. Healing Hands coverage factors that were prioritized included direct or one-transfer connectivity to major target population areas and areas with high concentrations of existing Healing Hands patients. Further analysis or planning may be necessary to determine how these routes might extend beyond the study area.

# ALTER EXISTING ROUTES



#### **OPTION 1: ROUTE 502**

Route 502 connects densely populated apartment communities to Presbyterian Hospital, a Social Security Office, and three light rail stations along DART's Red Line and Orange Line.

The proposed route alteration extends the route's existing southbound loop eastward along Royal Ln from Manderville Ln to Greenville Ave. This loop creates additional opportunity for rail connection for moderately used stops along Meadow Rd and Walnut Hill Ln, removes a slight redundancy of service (currently unused) between Meadow Rd and Walnut Hill Ln along Manderville Ln and maintains existing rail connections and the current distance between highly trafficked stops and rail connections.

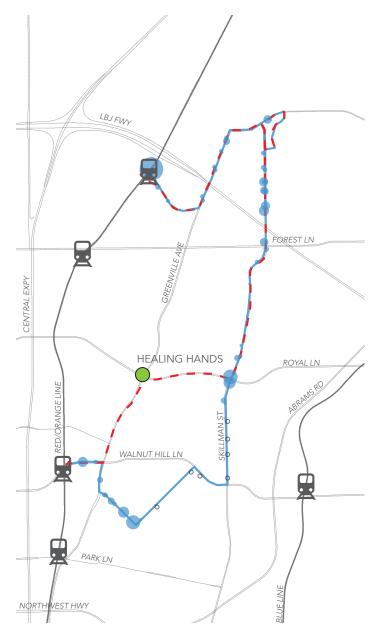
ROUTE 502 - KEY FIGURES				
		NORTHBOUND	SOUTHBOUND	
ROUTE LENGTH (mi.)		-	+1.316	
RESIDENTS SERVED	(38)	-	+1,817	
BUSINESSES SERVED		-	+78	
EMPLOYEES SERVED	(39)	-	-46	
ZERO BOARDINGS ELIMIN. (40)	ATED	-	3	

PROPOSED ROUTE

**EXISTING ROUTE** 

EXISTING BUS BOARDINGS
STOPS W/ ZERO BOARDINGS

# **ALTER EXISTING ROUTES**



#### **OPTION 1: ROUTE 582**

Route 582 connects densely populated apartment communities to Richland College and DART's Red Line and Orange Line at the LBJ/Central Station to the North and the Walnut Hill Station and Presbyterian Hospital to the South.

The proposed alteration diverts the northbound route along Greenville Ave and then westward along Royal Ln. Moderately trafficked stops on Pineland Dr continue to be served by Route 506 and by southbound route 582, maintaining quick access to Red and Orange Line trains. Eight currently unused stops are eliminated along an abbreviated northbound route.

ROUTE 582 - KEY FIGURES				
		NORTHBOUND	SOUTHBOUND	
ROUTE LENGTH (mi.)		-0.99	-	
RESIDENTS SERVED	(41)	-7914	-	
BUSINESSES SERVED		-461	-	
EMPLOYEES SERVED	(42)	-38	-	
ZERO BOARDINGS ELIM (43)	INATED	8	-	

PROPOSED ROUTE



**EXISTING BUS BOARDINGS** 

STOPS W/ ZERO BOARDINGS

# 2

#### **ESTABLISH NEW ROUTES: WALNUT HILL ROUTE**



#### WALNUT HILL ROUTE - KEY FIGURES

111 121 13 1 11122 113		
ROUTE LENGTH (mi.)	3.866	
RESIDENTS SERVED	8455 (44)	
BUSINESSES SERVED	1473	
EMPLOYEES SERVED	9409 (45)	
CONNECTING ROUTES	374, 475, 502, 506, 582, 583, Red Line, Orange Line, Blue Line	
SERVICE REDUNDANCIES	Shares negligible portion of route with 583, 374, 502, and 506 within immediate proximity of a light rail station.	

The Walnut Hill option provides advantages for both DART and for Healing Hands Ministries. By connecting to both the Red/Orange Line and the Blue Line, this option would provide bus service from Garland, Northeast Dallas and along Central Expressway to Healing Hands with a single transfer. Additionally, by connecting with other routes such as 502, 506, 582 and 583, Healing Hands would be suitably connected by public transportation to areas with its densest client base.

Connection with routes 374 and 475 provide additional service to Healing Hands moderate client bases further east and south. The Walnut Hill option also greatly negates the need for Blue Line users to travel as far south as Mockingbird Station in order to transfer to northbound Red/Orange Line trains. Finally, this option fills service gaps along Walnut Hill Ln between Greenville Ave and Abrams Rd and along Greenville Ave between Royal Ln and Walnut Hill Ln.

PROPOSED ROUTE

EXISTING ROUTE

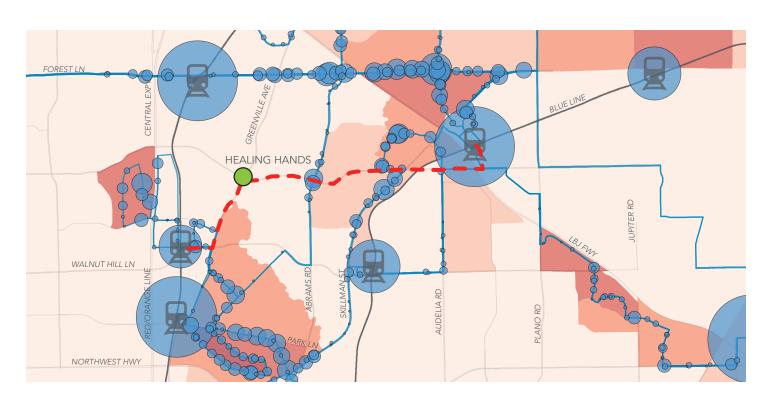
EXISTING BUS BOARDINGS

STOPS W/ ZERO BOARDINGS



# 2

#### **ESTABLISH NEW ROUTES: ROYAL LANE ROUTE**



#### **ROYAL LANE ROUTE - KEY FIGURES**

ROUTE LENGTH (mi.)	3.966		
RESIDENTS SERVED	19389	(47)	
BUSINESSES SERVED	1593		
EMPLOYEES SERVED	10350	(48)	
CONNECTING ROUTES	374, 488, 502, 506, 551, 560, 582, 583, Red Line, Orange Line, Blue Line		
SERVICE REDUNDANCIES	Shares negligible portion of route with 502, 506, 374 and 583, mostly in approaching DART light rail stations.		

The Royal Lane option provides advantages for both DART and for Healing Hands Ministries. The Royal Lane option provides an express route from LBJ/Skillman Station on the Blue Line to Walnut Hill Station on the Red/Orange Line, reducing the distance needed to travel to transfer between lines.

Its connection to the 502, 506, 582 and 583 lines provide comprehensive one-transfer service to Healing Hands existing and target client base. Connection to route 488 extends Healing Hands transit-accessible service area to concentrations of high need populations between Preston Rd and the Dallas North Tollway at Spring Valley Rd and Alpha Rd.



STOPS W/ ZERO BOARDINGS

RESIDENTS PER SQUARE MILE, UNINSURED

& BELOW 200% POVERTY BY CENSUS TRACT (49)

0 - 1000 4000 - 8000

1000 - 2000 8000 - 16000

2000 - 4000

#### CONCLUSION

Maintaining and treating our health can be costly and difficult for anyone in America. It takes time, attention, planning and money. For those who are living in poverty and uninsured, this task becomes both increasingly monumental and increasingly necessary. A vicious cycle, the poor and uninsured have less access and fewer options when it comes to healthcare although they are frequently the ones who need it the most, suffering from higher rates of a variety of mental and physical ailments. This issue is particularly relevant in Dallas, where X% of people are living in poverty without health insurance. These compounding conditions make the work of Healing Hands all the more important.

Healing Hands Ministries provides high quality health care, including primary and dental care, to residents in Lake Highlands, throughout the Dallas County and beyond. Healing Hands serves those who otherwise might have trouble accessing health care, be forced to use the emergency room or forego care altogether. Healing Hands is well situated to serve its target population, sited within short distance of several neighborhoods with high densities of poor and uninsured residents.

The poor rely disproportionately on public transportation to commute and move about the city. People for whom Healing Hands is the closest viable health care option but are unable to access a car or drive have no existing public transportation option to reach the clinic. The nearest bus stop is nearly three quarters of a mile away. In general Dallas's health care options are well served by public transportation, but Healing Hands, with its important location in the city and its high volume of clients served, is a glaring outlier.

Several options for better connecting Healing Hands to public transportation are worth further pursuit. For DART, changes to routes 502 or 582 would un-tap new user bases, eliminate unused bus stops, and create a meaningful system connection to Healing Hands. The creation of a new route that expediently links the light rail stations between Red/Orange and Blue Lines and covers currently unserved territory along Greenville Avenue or Royal Lane should appeal to both DART and Healing Hands Ministries.

Effectively bringing Healing Hands Ministries into public transportation coverage would not only enhance the transportation system, it would improve the health of Dallas citizens in need.

#### **SOURCES**

- 1. "Key Facts about the Uninsured Population." The Kaiser Commission on Medicaid and the Uninsured. The Kaiser Family Foundation, 29 Oct. 2014. Web. 9 Nov. 2014.
- 2. Ibid.
- 3. Cohen RA, Kirzinger WK. Financial burden of medical care: A family perspective. NCHS data brief, no 142. Hyattsville, MD: National Center for Health Statistics. 2014.
- 4. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S2701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 5. Ibid.
- 6. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table S2701; generated by John Smith; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>
- 7. "Key Facts about the Uninsured Population." The Kaiser Commission on Medicaid and the Uninsured. The Kaiser Family Foundation, 29 Oct. 2014. Web. 9 Nov. 2014.
- 8. Cohen RA, Kirzinger WK. Financial burden of medical care: A family perspective. NCHS data brief, no 142. Hyattsville, MD: National Center for Health Statistics. 2014.
- 9. Ihid
- 10. Moy, Ernest, MD, Eva Chang, MPH, and Marguerite Barrett, MS. "Potentially Preventable Hospitalizations United States, 2001-2009." Morbidity and Mortality Weekliy Report. Centers for Disease Control and Prevention, 22 Nov. 2013. Web.
- 11. Cohen RA, Kirzinger WK. Financial burden of medical care: A family perspective. NCHS data brief, no 142. Hyattsville, MD: National Center for Health Statistics. 2014.
- 12. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S1701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 13. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S2701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 14. Ibid.
- 15. Robert Wood Johnson Foundation, and University of Wisonsin Population Health Institute. 2013 County Health Rankings National Data. 2013. Raw data. N.p.
- 16. Ibid.
- 17. Healing Hands Ministries. Patient Statistics. 29 Mar. 2014. Raw data. Dallas, Texas.
- 18. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S1701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 19. Healing Hands Ministries. Patient Statistics. 29 Mar. 2014. Raw data. Dallas, Texas.
- 20. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S1701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 21. Healing Hands Ministries. Patient Statistics. 29 Mar. 2014. Raw data. Dallas, Texas.
- 22. "What Are Federally Qualified Health Centers (FQHCs)?" Health Information Technology. Health Resources and Services Administration- U.S. Department of Health and Human Services, n.d. Web. Sept. 2014.
- 23. "Medically Underserved Areas/Populations." Health Resources and Services Administration. U.S. Department of Health and Human Services, n.d. Web. Sept. 2014.
- 24. Healing Hands Ministries. Patient Statistics. 29 Mar. 2014. Raw data. Dallas, Texas.
- 25. Ibid.
- 26. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S1701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>>.

- 27. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S2701; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 28. Hobson, Jeff, and Julie Quiroz-Martinez. Roadblocks to Health: Transportation Barriers to Healthy Communities. Rep. Transportation for Healthy Communities Collaborative, 2002. Web.
- 29. Ahmed, Syed M., Jeanne P. Lemkau, Nichol Nealeigh, and Barbara Mann. "Barriers to Healthcare Access in a Non-elderly Urban Poor American Population." Health & Social Care in the Community 9.6 (2001): 445-53. Web.
- 30. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 1-Year Estimates, Table S0802; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 31. Ibid.
- 32. Ibid.
- 33. Dallas Area Rapid Transit. 2013 Bus Routes Shapefile. 11 Jan. 2013. Raw data. Dallas, Texas.
- 34. Ibid.
- 35. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table B27015; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 36. Ibid.
- 37. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table S0802; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 38. U.S. Census Bureau; 2010 Decennial Census, SF1 100% Data, Table P1; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 39. Reference USA. Business and Employee Data. 6 Aug. 2014. Raw data. Dallas, TX, n.p.
- 40. Dallas Area Rapid Transit. April 2013 Stop-Level Boardings Farebox Data. Dallas, Texas.
- 41. U.S. Census Bureau; 2010 Decennial Census, SF1 100% Data, Table P1; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 42. Reference USA. Business and Employee Data. 6 Aug. 2014. Raw data. Dallas, TX, n.p.
- 43. Dallas Area Rapid Transit. April 2013 Stop-Level Boardings Farebox Data. Dallas, Texas.
- 44. U.S. Census Bureau; 2010 Decennial Census, SF1 100% Data, Table P1; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 45. Reference USA. Business and Employee Data. 6 Aug. 2014. Raw data. Dallas, TX, n.p.
- 46. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table S0802; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 47. U.S. Census Bureau; 2010 Decennial Census, SF1 100% Data, Table P1; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.
- 48. Reference USA. Business and Employee Data. 6 Aug. 2014. Raw data. Dallas, TX, n.p.
- 49. U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table S0802; generated by Thomas Simpson; using American FactFinder; <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>.