

ATTACHMENT 9. PROGRAM PREFERENCES

Fifteen Program Preferences are listed in the 2012 Integrated Regional Water Management (IRWM) Guidelines. Addressed below are the 13 that apply to the Fresno Metropolitan Flood Control District’s **Dry Creek Flood Control Improvement Project (Project)**. The order in which they are presented here matches the order they appear on pages 12-14 of the 2012 IRWM Guidelines.

1. Include regional projects or programs (CWC §10544)

FMFCD participates in several regional partnerships for a range of purposes including flood control and urban storm drainage, stormwater quality requirements of the Clean Water Act, groundwater resource management, recreation, and wildlife habitat. All of these partnerships relate to the benefits provided by the Dry Creek Flood Control Improvement Project. Regional cooperative efforts include, but are not limited to:

- **Fresno-Clovis Area Flood Control and Urban Drainage** – FMFCD participates in a cooperative agreement with the County of Fresno, City of Fresno, City of Clovis, and the Fresno Irrigation District (FID). The agreement governs the conveyance of flood and storm waters through FID’s canal system to help preserve capacity in FMFCD’s stormwater basins during the rainy season to prevent flooding.
- **Fresno-Clovis Area Groundwater Recharge Program** – FMFCD participates in individual cooperative agreements with the cities of Fresno and Clovis, and FID to receive portions of each city’s surface water entitlements, delivered through FID canals, to FMFCD stormwater basins for groundwater recharge.
- **City of Fresno 2010 Urban Water Management Plan (UWMP)** – FMFCD contributes to implementing the UWMP as described in the previous bullet point, by recharging City of Fresno surface water entitlements at 77 basins within the City of Fresno during the dry weather season. FMFCD stormwater management basins are a critical component of the City of Fresno’s UWMP objective to balance its groundwater use with groundwater recharge by the year 2025.
- **National Pollutant Discharge Elimination System (NPDES) permit** – FMFCD serves as the lead agency for the Fresno-Clovis area. Co-permittee entities are the cities of Clovis and Fresno, County of Fresno, and California State University, Fresno. These groups, in partnership with Caltrans, pool resources and ideas for public outreach under the umbrella of Partners for a Clean Community.
- **Fresno Area Regional Groundwater Management Plan** – FMFCD is one of 10 participating regional entities working to meet the Plan’s eight objectives, which address in detail how to preserve and enhance groundwater quality and supply, correct the condition of overdraft to ensure adequate supply for future use, manage and monitor groundwater resources to enable policy formulation and recommended actions, and improve coordination and consistency among agencies in the Plan area.
- **Kings Basin Integrated Regional Water Management Plan** - Adopted through DWR’s Regional Acceptance Process in 2007 and updated most recently in October, 2012. The update is being reviewed by DWR. FMFCD is one of 17 member agencies who actively participate on the Kings Basin Water Authority Board of Directors, and in Plan implementation.
- **Southern Sierra Integrated Regional Water Management Plan** – Under development at this time using funding from a DWR IRWM Planning Grant awarded in December, 2012.
- **General Plans** - FMFCD coordinates with the cities of Clovis and Fresno in the updates and implementation of their General Plans with respect to urban storm drainage and groundwater recharge, and is an integral part of the County of Fresno’s General Plan.



FMFCD is also a member of the Association of Metropolitan Water Agencies and the Fresno County Water Advisory Committee, and participates in semi-monthly water agency coordination meetings with the water representatives of the cities of Clovis and Fresno, Fresno County, and FID. These meetings are used to review and coordinate water related projects of each of the agencies.

2. Effectively integrate water management programs and projects within a hydrologic region identified in the California Water Plan; the Regional Water Quality Control Board (RWQCB) region or subdivision; or other region or sub-region specifically identified by DWR

The FMFCD is located within the Tulare Lake Basin, as identified in *California's Groundwater – Bulletin 118*. There are many other agencies that operate within FMFCD's service area that are also responsible for many aspects of water management, and with which FMFCD works cooperatively. Ongoing cooperative programs vital to the Fresno/Clovis area's public safety and water resources are:

Drainage and flood control – In the mid- to late-1800's the Fresno/Clovis area's natural streams were converted into and extended as irrigation canals. Unfortunately, these canals lessen in size as they continue downstream. Thus, FMFCD is very dependent upon storage facilities to detain peak flood flows and meter the releases to within the capacity of the downstream portions of the canals. FMFCD has three dams and four large detention basins to detain flood water from foothill streams. The Project would create and improve three additional detention basins, and improve the safety of the Big Dry Creek Dam. FMFCD was the Local Sponsor of a U.S. Army Corps of Engineers project that increased the storage capacity of Big Dry Creek Dam (further improvements to which are part of this proposal), the largest facility or component of FMFCD's flood control program. FMFCD operates more than 160 urban stormwater management basins in conjunction with dams and detention basins to capture excess water and safely discharge it through the canal system in close coordination with FID. Other than Big Dry Creek Diversion Channel to Little Dry Creek, the community is very dependent upon FID's canal system to convey flood water away from the area during the rainy season. A significant portion of this Project is improvement of additional detention systems along Dry Creek that will improve the flood routing plan.

Groundwater recharge – FMFCD basins recharge groundwater by capturing and retaining stormwater. There is also an ongoing, multi-agency effort that involves agreements between FMFCD, FID, and the cities of Clovis and Fresno to convey portions of the cities' surface water allotments through FID canals to FMFCD stormwater basins during the non-rainy season for groundwater recharge. This is in addition to solely dedicated groundwater recharge facilities operated by these other agencies. Together FMFCD, FID, the City of Fresno, and the City of Clovis recharge an annual average of 60,000 acre-feet. These cooperative efforts are managed by a series of agreements, found at www.fresnofloodcontrol.org/flood_control_system/index.

3. Effectively resolve significant water-related conflicts within or between regions

FID has the authority to require FMFCD pumps discharging to its canal system to be turned off during critical flood routing conditions to protect the canals and avoid overtopping. Further, FID may require the pumps be turned off due to lack of a point of disposal of such floodwater discharges. Also, FID has the capability to divert floodwaters to the San Joaquin River.

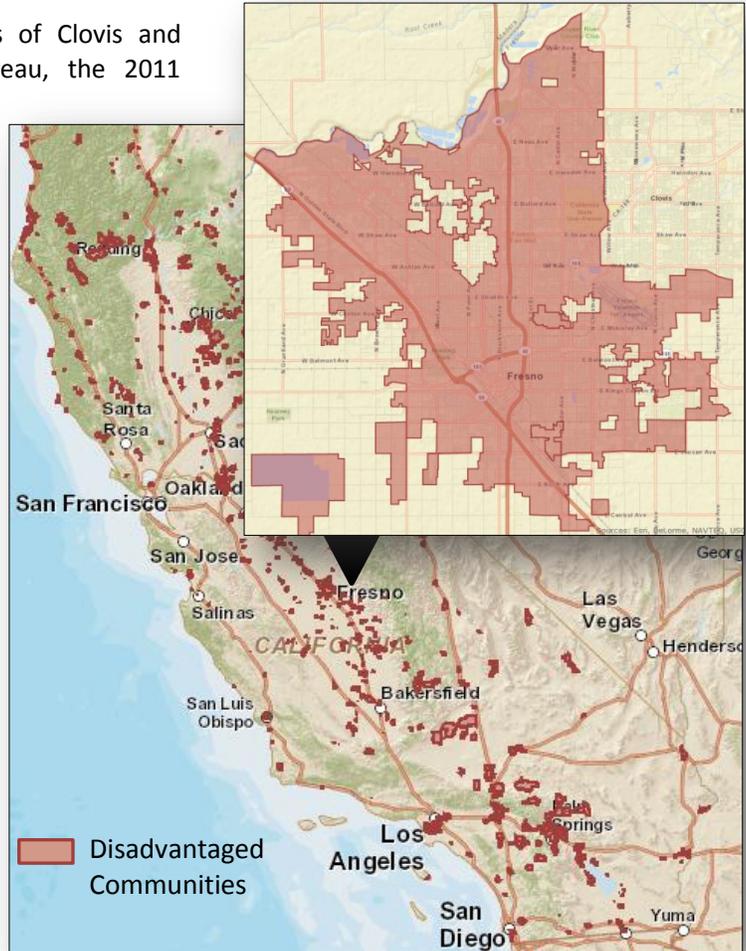
Adding detention control and increased storage via the proposed grant Project reduces the likelihood that FID will require discharges to be terminated during critical flood flows, and eases the tension of such requests related to a choice between urban flooding, and flooding of agricultural constituents, which are a strong interest of FID. The Project is an opportunity to reduce the frequency of such difficult choices.

Also, to the extent that the Fresno/Clovis area can successfully control and manage its floodwaters, it lessens the discharge diverted to the San Joaquin River. Large flood flows managed locally result in less peak flood flow diversions, preventing pressure on the Central Valley Flood Protection Plan downstream.

4. *Address critical water supply or water quality needs of disadvantaged communities within the region*

Disadvantaged community: Nearly 84% of the FMFCD service area is shown as a disadvantaged community on the map titled “Madera County to Riverside County (14 Counties) – Beta 1.0” (shown below) found on the [DWR web site](#).

FMFCD’s service area encompasses the cities of Clovis and Fresno. According to the U.S. Census Bureau, the 2011 population estimate of Clovis is 96,929, and the 2011 population estimate of Fresno is 501,362. Together the population total within FMFCD’s service area is 598,291; 83.8 percent in Fresno, and 16.2 percent in Clovis. The 2012 IRWM Guidelines state that disadvantaged communities are those with a Median Household Income (MHI) less than 80% of the statewide average. Using that criterion, all of Fresno, or 83.8 percent of the population within FMFCD’s service area, is classified as a disadvantaged community. The statewide MHI is \$60,883 and the MHI in Fresno is \$43,124 (70.83% of statewide MHI). Clovis as a whole does not meet the criterion, with an MHI of \$63,229 (103.85% of statewide MHI), though portions of it do.



In an October, 2005 Brookings Institution report titled, “[Katrina’s Window: Confronting Concentrated Poverty Across America](#)” (Appendix 9-1), Fresno was identified as the large American city with the most concentrated poverty in the United States, ahead of post-Hurricane Katrina New Orleans, Louisiana, with 43.5 percent of the population living in poverty.

In a September 22, 2011 Brookings Institution report titled, “[Parsing U.S. Poverty at the Metropolitan Level!](#)” (Appendix 9-2), the Fresno area’s fortunes had improved somewhat, but it was still third on the list of large American cities with the highest poverty rates.

Critical water supply needs: Technical analysis of the project area’s groundwater resources using water resources modeling is part of the Kings Basin IRWMP. Analysis showed that, “Groundwater overdraft will be the greatest in the areas of Raisin City Water District, and the Cities of Fresno and Clovis” ([Kings Basin Water Authority Integrated Regional Water Management Plan](#), p. 12-2). The cities of Clovis and Fresno make up FMFCD’s service area.

The City of Fresno estimates its municipal water supply to consist of roughly 85% groundwater and 15% treated surface water. The City of Clovis estimates its supply to be roughly 74% groundwater and 26% treated surface water. The increase in the use of treated surface water, coupled with ongoing efforts to educate the public and encourage water conservation, have reduced the community’s consumption of groundwater. However, the great majority of the community’s water needs are met with groundwater.

Groundwater overdraft calculations presented in the Kings Basin IRWMP are based on groundwater storage data collected between 1964 and 2011, and use that data to project through 2035. The model assumes that future hydrology will mimic past hydrology, and projects an average annual groundwater overdraft of 122,000 acre-feet ([Kings Basin Water Authority Integrated Regional Water Management Plan](#), p. 12-3). This projection illustrates why the members of the Kings Basin Water Authority have identified groundwater overdraft as their primary concern.

Critical water quality needs: Groundwater recharge of storm runoff and imported surface water has demonstrated good quality water replenishment in the Fresno/Clovis area for many years. In 1984 FMFCD participated in the National Urban Runoff Program (NURP) studies and studied the FMFCD system and demonstrated its success in removing contaminants in stormwater and in providing high quality replacement of groundwater extractions. This benefit is service area-wide, which as demonstrated above, is almost completely in a DAC area.

Population facts			
	Fresno	Clovis	California
Population in 2000*	427,652	68,468	33,871,648
Population in 2011*	501,362	96,929	37,691,912
Percent of Population Growth	14.7%	29.4%	10.14%
Median Household Income*	\$43,124	\$63,229	\$60,883
Percentage of Population Living in Poverty	24.9%	10.2%	13.7%
Unemployment Rate**	14.4%	7%	9.8%
Education level attained*	74.7% high school, 20.5% bachelor's degree or higher	89.6% high school, 30% bachelor's degree or higher	80.7% high school, 30.1% bachelor's degree or higher
Speak a language other than English at home*	42.4%	21.3%	43%

*Source: U.S. Census Bureau

**Source: U.S. Bureau of Labor Statistics, figures for December, 2012

5. Effectively integrate water management with land use planning

FMFCD, City of Fresno, City of Clovis, and the County of Fresno cooperatively share data, including land use layers in each of their Geographical Information Systems. Planning efforts of each are coordinated closely through this process. FMFCD alerts each of the agencies when a land use proposal is problematic from the perspective of storm drainage management. Each of the agencies are very supportive of imposing mitigation measures on development proposals that require such measures in order to comply with the Storm Drainage and Flood Control Master Plan that is monitored by FMFCD. Further, each of these land use agencies routes all new development applications to FMFCD to give it the opportunity to comment and impose appropriate conditions. Each of the agencies provides FMFCD opportunities to review their proposed General Plans and incorporates the Storm Drainage and Flood Control Master Plan as an element of their General Plan.

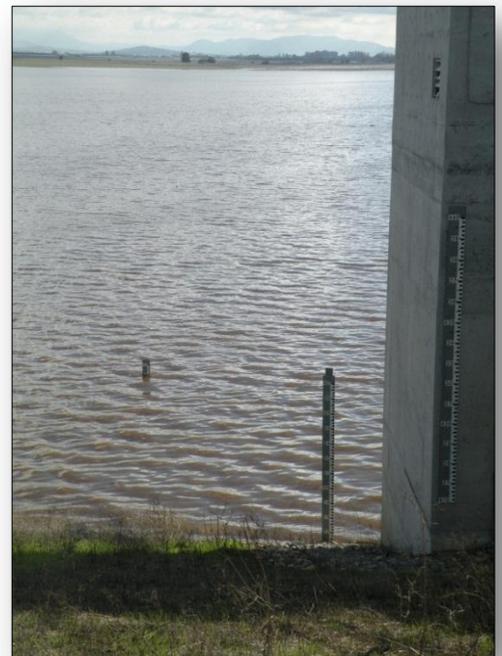
6. For eligible SWFM funding, projects which: a) are not receiving State funding for flood control or flood prevention projects pursuant to PRC §5096.824 or §75034 or b) provide multiple benefits, including, but not limited to, water quality improvements, ecosystem benefits, reduction of in-stream erosion and sedimentation, and groundwater recharge.

The Project provides multiple benefits, including: increased flood protection and public safety, increased groundwater recharge and storage/retention capability, water quality improvements, wildlife habitat enhancement, wildlife viewing and public education, and re-use of stormwater/urban irrigation runoff for landscape irrigation. Other than Proposition 1E grants, FMFCD does not receive State funding for flood control or flood prevention projects, though its system receives positive mention in the California Water Plan:

“The Fresno-Clovis metropolitan area has built an extensive network of storm water retention basins that not only recharges more than 70 percent of the annual storm water runoff (17,000 acre-feet) and removes most conventional storm water pollutants, but also recharges excess Sierra snowmelt during the late spring and summer (27,000 acre-feet).” (California Water Plan Update 2009, Volume 2, pg. 19-10)

Increased flood protection and public safety – The Project improves flood control system effectiveness along Big Dry Creek and Pup Creek (a Dry Creek tributary), from the northeast to southwest corner of FMFCD’s service area. Construction of a 15-foot deep toe drain and de-watering pumps at Big Dry Creek Dam improves dam safety, and flood water storage capacity and duration, especially with the conversion of late-season water to beneficial use. Construction of the Pup Creek-Enterprise Detention Basin will provide flood water storage capacity, and correct interference with flood routing in the Enterprise Canal, which would otherwise lead to flooding of lands downstream where the Enterprise Canal or Big Dry Creek would overflow. Complete excavation of the Big Dry Creek Detention Basin, construction of a turnout structure, a pump station, and a telemetry system will provide conveyance capacity relief and urban drainage system relief to further improve control and flexibility to manage flood flows in the urban area. Excavation of the entire proposed 43-acre Dry Creek Extension Basin and construction of a pump station and pipeline to connect to Dry Creek Canal and Fanning Ditch will allow for greater stormwater storage capacity to relieve pressure on the upstream system and provide groundwater recharge capability. This storage will allow FMFCD to keep urban pump discharges operating when they might otherwise have to turn off for lack facilities to manage and store these waters.

Increased groundwater recharge capability – Each project component provides a greater ability to capture, retain, and recharge storm and flood water to the groundwater aquifer. Each of the three detention facilities will directly recharge on-site. The improvement at Big Dry Creek Dam will allow retention of late season water and distribution downstream for recharge. Projected total annual recharge capability is 1,990 acre-feet, which represents 4% of the current five-year, system-wide recharge average of 49,367 acre-feet.



Flood flows captured behind Big Dry Creek Dam after series of storms in December 2010.



Southwest edge of Big Dry Creek Dam; part of future toe drain construction site.

Water quality improvements – Capture and retention of flood and storm waters allows time for pollutants and silts to settle out and filter through soil in the basin floors. This natural filtration process prevents pollutants from reaching groundwater and from moving downstream as water is released, following temporary retention.

Wildlife habitat enhancement – The primary purposes of the sites are flood control, urban storm drainage, and groundwater recharge, the nature of the sites and their operation make them welcoming homes for wildlife, as seen at numerous other FMFCD sites. The Project basins will increase wildlife habitat through increased open space, pooled surface water and shoreline habitat. Late rain season operational adjustments and summer recharge will provide longer periods for use by wildlife.

Grant Project Area	Additional Pooled Surface Water Area (acres)	Additional Shoreline Length (miles)
Big Dry Creek Reservoir	164.0	2.7
Pup Creek Enterprise Detention Basin	11.8	0.6
Big Dry Creek Detention Basin	22.7*	0.7
Dry Creek Extension Basin	20.0	0.5
Total	218.5	4.5

*Pooled surface area and the 4.6 acres of landscaped area overlap, resulting in a mathematical discrepancy between the 25 acre site and the total 27.3 acres (pooled surface area + landscaped area).

Birds, mammals, frogs, fish and turtles spend some or all of their life cycle in or around the water. Many species depend on this habitat for breeding, foraging, hunting, fishing, and other essential uses. Trees and vegetation along the shoreline are important feeding, nesting, and perching areas for songbirds. FMFCD basins provide habitat for a variety of song birds, raptors and water fowl like red tail hawks, redwing blackbirds, grackles, northern flicker, American coot, great white egret, great blue heron and the American avocet. Other species include grey foxes, bullfrogs and western pond turtles.

Wildlife viewing and public education – The Project includes construction of a segment of the Enterprise Trail adjoining the Pup Creek-Enterprise Basin, complete with a shaded wildlife viewing station and interpretive signage to educate trail users. The Enterprise Trail is identified in the ‘Open Space and Conservation Element’ of the Fresno County General Plan (<http://www.co.fresno.ca.us/DepartmentPage.aspx?id=19705>, pg. 2-148) and by City of Clovis on its “Trails of Clovis” map (Appendix 7-6). The viewing station will be modeled after two other FMFCD sites and will be equipped with one standard binocular viewer, one handicapped accessible binocular viewer, a bench, shade pavilion, and weather-resistant interpretive signage about wildlife found at the basin. Sign content will be similar to content on a Fresno Audubon Society-sponsored sign at FMFCD’s Basin “S”, at the Fresno/Clovis city line. Teaching the public about the relationship between flood and stormwater, wildlife, and human behavior helps build environmental stewardship. The Big Dry Creek Detention Basin is on the Fresno Audubon Society’s ‘Birding Sites Map’ (<https://sites.google.com/a/fresnoaudubon.org/fresno-audubon-society/actions/birding-sites-map>), and recognition of FMFCD basin sites as home to wildlife is made in their [April, 2012 issue of “The Yellowbill Newsletter”](#) in the form a reprint of a [Summer, 2011 FMFCD newsletter story](#).



FMFCD wildlife viewing station at Basin “BX”, along the Enterprise Trail in Clovis.

Reuse of stormwater/nuisance flows for landscape irrigation – Big Dry Creek Detention Basin is very visible from Freeway 168. Landscaping of the upper one-third of the basin site (4.6 acres) will bring aesthetic improvement. Irrigation water to support planting of turf and trees will be drawn from the basin itself, instead of the municipal water system. The municipal water system only will be used during the infrequent periods of basin dewatering for maintenance and removal of sedimentation. Recharge is estimated annually at 620 acre-feet and the average annual draw from the basin is estimated at 19.2 acre-feet.

Preferences 7 through 14. Address statewide priorities (Table 1 establishes the specific Statewide Priorities for the IRWM Grant Program.)

There are eight ‘Statewide Priorities’ listed in the 2012 IRWM Guidelines table (pages 11-13), seven of which are addressed by the Project’s components. The Statewide Priorities are listed below, in order, along with description of how the project components address each priority:

7. *Drought Preparedness*

FMFCD’s storm drainage and flood control system is by its design an important tool in providing drought preparedness. The network of dams, reservoirs, detention basins, and related structures has the dual purpose of providing protection from rainfall and floodwaters, and providing community-wide groundwater recharge. Stormwater and imported surface water percolate through basin floors to replenish the groundwater aquifer. In addition, the cities of Clovis and Fresno provide a portion of their municipal water supplies through surface water treatment. Maintenance of a reliable groundwater supply creates a cushion for supply, should surface water become unavailable for treatment and delivery. Groundwater remains the primary source of municipal potable water within the FMFCD service area and surrounding region. The total annual groundwater recharge volume that could be result from the Project is 1,990 acre-feet. The Project:

- Promotes water conservation, conjunctive use, reuse and recycling – All project components are dual-use for flood control and groundwater recharge.
- Improves landscape and agricultural irrigation efficiencies – Landscaping of 4.6 acres at the 25-acre Big Dry Creek Detention Basin (described above in Preference #6) will consist of planting trees and turf to be supported by a surface water irrigation system. The new basin pump station will draw water for irrigation from inside the basin. Use of surface water for irrigation will save an estimated 6,245,000 gallons of potable municipal water each year, while providing aesthetic improvement to a large urban site which abuts the eastern side of State Route 168.
- Achieves long-term reduction of water use – Only the Big Dry Creek Detention Basin component will use water, and plans for the use of surface water for landscape irrigation (described above).
- Achieves efficient groundwater basin management – Improvements will result in projected annual recharge of 1,990 acre-feet of surface water to groundwater that would otherwise be lost to the area due to lack of adequate capacity for storage.
- Establish system interties – FMFCD has 85 basins interconnected to FID’s canal system. The Project will add three more connections.
 - Pup Creek-Enterprise Detention Basin – Allow movement of flood waters between the basin, Pup Creek, and adjacent Enterprise Canal to manage flows and prevent overtopping of the canal during large storms, and allow deliveries for recharge during the non-rainy season.
 - Big Dry Creek Detention Basin – The Project will interconnect the basin to Big Dry Creek to allow movement of water into and out of the basin for flood routing, or to deliver water for recharge. This basin is in a strategic location near both the Gould Canal and Dry Creek.
 - Dry Creek Extension Basin – Will connect the Dry Creek Extension Basin with both the Fanning Ditch and Dry Creek to allow movement of water in or out of the basin for flood management and groundwater recharge.

8. Use and Reuse Water More Efficiently

Proposed Project will implement water use efficiency, water conservation, recycling and reuse to help meet future water demands, increase water supply reliability, and adapt to climate change.

- Increase urban water use efficiency – The Big Dry Creek Detention Basin improvement includes landscaping the top one-third (4.6 acres) of the 25-acre basin site with trees and turf. The irrigation system will draw water from the basin itself, rather than the municipal potable water system. Projected annual savings of potable water is 6,245,000 gallons.
- Capture, store, treat, and use urban stormwater runoff
 - Pup Creek-Enterprise Detention Basin: Will be able to capture and detain stormwater runoff from Pup Creek that would otherwise be lost through discharge through the Enterprise Canal. Ultimately the site will have recharge capability of 120 acre-feet annually.
 - Big Dry Creek Detention Basin: Expanded basin storage capacity will be 260 acre-feet, resulting in a potential increase of 620 acre-feet of annual groundwater recharge.
 - Dry Creek Extension Basin: Once fully excavated, the proposed 43-acre site will have the capacity to accommodate and retain 795 acre-feet of flood flows from Big Dry Creek. This capacity will allow urban pumps to continue pumping in lieu of a potential shut off that would result in flood damages. This is projected to annually recharge an estimated 1,000 acre-feet of water.
- Incorporate and implement low impact development (LID) design features, techniques, and practices to reduce or eliminate stormwater runoff – DWR’s 2009 California Water Plan recognizes FMFCD’s system as an example of an effective regional LID approach to urban stormwater retention and recharge. The entire system is considered regional LID because it retains approximately 85% of the rain that falls on the Fresno-Clovis metropolitan area. In the September/October 2011 issue of the Water Education Foundation’s *Western Water* magazine, FMFCD’s system is praised as highly effective in capturing and retaining stormwater in a story titled [Mimicking the Natural Landscape: Low Impact Development and Stormwater Capture](#).



Landscaped FMFCD basin site with surface water irrigation system; project funded in large part by a Caltrans

9. Climate Change Response Actions

Annual rainfall data for the Fresno area has been collected since 1887, starting with the Army Signal Corps, and has been collected by the National Weather Service at the Fresno Air Terminal since 1949. Historical rainfall data shows a continuing trend of increasing annual rainfall from 1897 to 2012, illustrated in Appendix 9-4. FMFCD uses this data to design drainage systems and basins, and has incorporated changes in rainfall into system design to accommodate greater volumes of water. The FMFCD system, including the proposed Project improvements, will serve the area’s population effectively, whether climate change results in greater or diminished rainfall over time. For example, greater rainfall and water volumes will be effectively routed and controlled to prevent flooding, while augmenting groundwater recharge accomplished. Decreased rainfall totals would not tax the flood control system, but would make augmented groundwater recharge performance critical to the continuing reliable water supply.

- Use and reuse water more efficiently – Each of the project components, like the entire FMFCD system, use storm/flood waters to recharge the community’s groundwater supply through percolation to the local aquifer. Water that either falls on the community as rain, or flows into the community as flood flows from streams that originate in the adjacent Sierra Nevada foothills, will be

retained in greater quantity after project completion. At present the three basin sites cannot retain and recharge water, but after Project completion at the end of 2016 they will have a combined storage capacity of 1,057 acre-feet. After Pup Creek Enterprise Detention Basin is fully excavated, total storage capacity climbs to 1,207 acre-feet.

- Water use efficiency – Of the four project components, the only one that will use water is the perimeter landscaping at Big Dry Creek Detention Basin. Irrigation water to support trees and turf will be surface water drawn from the basin, instead of the municipal potable water supply.
- Reuse runoff – Runoff is captured and recharged to groundwater to improve the persistent groundwater overdraft condition of the Fresno-Clovis area. As explained in the ‘Use and reuse water more efficiently’ bullet above, in three years the three new basin sites will have storage capacity of 1,057 acre-feet, with an eventual total of 1,207 acre-feet. This adds to the FMFCD system-wide storm and surface water average annual recharge of 60,000 acre-feet.

10. Expand Environmental Stewardship

- The Project’s increase in groundwater recharge capability is consistent with FMFCD’s regular practice of managing storm and flood waters for beneficial use. Keeping these waters in the area to replenish the groundwater aquifer is one of FMFCD’s responsibilities outlined in its enabling legislation. The majority of water used by the community comes from the groundwater aquifer and constant replenishment is necessary to help offset use. Water conservation practices are becoming more common, but current usage and projected population growth make maximizing water resources even more important.
- Installation of a shaded wildlife viewing station at Pup Creek-Enterprise Detention Basin similar to the viewing stations at FMFCD’s Basins “BX” and “S” will encourage appreciation of wildlife among trail users. Signage will educate trail users about wildlife, and illustrate the connection between storm/flood waters, wildlife, and human behavior.
- The Dry Creek Flood Control Improvement Project meets wildlife management objectives in [FMFCD’s 2009 District Services Plan](#) (p. 125):
 - Develop and operate the local storm water drainage and regional flood control systems in a manner that provides managed incidental wildlife habitat benefits.
 - Preserve, develop and manage rural streams systems in a manner that facilitates the restoration of stream flows, encourages compatible riparian habitat, and produces long term net benefits for fish, wildlife, and native plants.
 - Maintain flood control function capabilities, while providing wildlife conservation benefits on District-owned lands.
 - Encourage and provide opportunities for public involvement and education in wildlife conservation, promoting the appreciation and understanding of environmental principles and values.



Great white heron, Canada geese, and a mallard duck at FMFCD Basin “D”/Sloan Johnson Oso de Oro Lake Park

11. Practice Integrated Flood Management

The Dry Creek Flood Control Improvement Project, as with all FMFCD projects, practices IFM as a matter of course. As defined by DWR’s FloodSAFE California program IFM “is an approach to dealing with flood risk that recognizes the connection of flood management actions to water resources management, land use planning, environmental stewardship and sustainability.” The Project’s facilities achieve multiple beneficial uses of publicly owned facilities.

Increased water storage capacity produces the dual benefit of great flood protection and greater groundwater recharge capability. The Project provides:

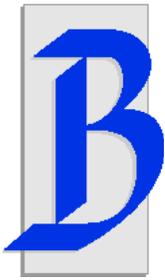
- Improved flood protection – Diversion, capture, storage, and recharge of large volumes of flood and storm waters that would otherwise cause risk to public safety and property, and/or be lost to the community rather than captured for groundwater recharge.
- More sustainable flood and water management systems – Increased planned connections between the canals and flood control and urban drainage facilities ensure efficient and effective functioning of the entire system as planned. The Project strengthens the system in areas that are recognized as being in need of improvement, or which are planned but have not yet been constructed.
- Enhanced floodplain ecosystems – The Project sites, like all 150+ FMFCD basin sites, provide incidental wildlife habitat and wildlife observation in an urbanized area. As explained in Volume 3 - Tulare Lake of the *California Water Plan 2009 Update*, “Most basins in California have lost the majority of their wetland habitat; but in the Tulare Lake region, changes have been especially detrimental for waterfowl...More than 95 percent of historical wetlands and 98 percent of all riparian habitat have been destroyed or modified.” ([page TL-11 of Volume 3, Tulare Lake, of the California Water Plan Update 2009](#)). Wildlife commonly found at FMFCD sites include: coots, ducks, egrets, herons, Canada geese, shorebirds, burrowing owls, opossums, foxes, raccoons, and rabbits.
- LID techniques that store and infiltrate runoff while protecting groundwater – In the September/October 2011 issue of the Water Education Foundation’s *Western Water* magazine, FMFCD’s system is identified as highly effective in capturing and retaining stormwater in a story titled [Mimicking the Natural Landscape: Low Impact Development and Stormwater Capture](#). The article also has positive mention of the FMFCD flood control and urban drainage system in the *2009 California Water Plan*. The FMFCD system is considered regional LID because it captures roughly 85% of the stormwater that falls on its service area.

12. Protect Surface Water and Groundwater Quality

Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses - FMFCD’s regional stormwater basin system captures over 92 percent of urban stormwater runoff and removes 50-80 percent of typical stormwater pollutants before discharge to the San Joaquin River, into FID canals, or recharge to groundwater. The regional basin system recharges an average of 70-85 percent of the annual rainwater that falls within its service boundary. The Project will increase the capacity of the regional system and increase FMFCD’s operational options to store and treat more stormwater runoff to produce additional flood control and water quality benefits. Groundwater recharge of storm runoff and imported surface water has demonstrated good quality water replenishment in the Fresno/Clovis area for many years. In 1984 FMFCD participated in the National Urban Runoff Program (NURP) studies and studied the FMFCD system. Study findings demonstrated the system’s success in removing contaminants in stormwater and high quality replacement of groundwater extractions.

13. Ensure Equitable Distribution of Benefits

The Project has community-wide benefit with respect to flood control, public safety, urban drainage, water quality, wildlife habitat, and groundwater recharge. Roughly 84 percent of FMFCD’s service area is considered a disadvantaged community, using DWR’s stated measurement criterion. Further, Fresno has been identified by the nonprofit Brookings Institution as number three on the list of large American cities with the highest poverty rates, using data provided by the 2010 U.S. Census for analysis. Providing multiple community-wide benefits with direct impact on quality of life is equitable in distribution.



The Brookings Institution

METROPOLITAN POLICY PROGRAM

Katrina's Window: Confronting Concentrated Poverty Across America

Alan Berube and Bruce Katz

Executive Summary

Hurricane Katrina's assault on New Orleans' most vulnerable residents and neighborhoods has reinvigorated a dialogue on race and class in America. This paper argues that the conversation should focus special attention on alleviating concentrated urban poverty—the segregation of poor families into extremely distressed neighborhoods.

- **Overall, nearly 50,000 poor New Orleanians lived in neighborhoods where the poverty rate exceeded 40 percent.** New Orleans ranked second among the nation's 50 largest cities on the degree to which its poor families, mostly African American, were clustered in extremely poor neighborhoods like the Lower Ninth Ward. In these places, the average household earned barely more than \$20,000 annually, only one in twelve adults held a college degree, four in five children were raised in single-parent families, and four in ten working-age adults—many of them disabled—were not connected to the labor force.
- **Areas of concentrated poverty are not confined to New Orleans.** Despite improvements in the 1990s, nearly every major American city still contains a collection of extremely poor, racially segregated neighborhoods. In cities as diverse as Cleveland, New York, Atlanta, and Los Angeles, more than 30 percent of poor blacks live in areas of severe social and economic distress.
- **These neighborhoods did not appear by accident.** They emerged in part due to decades of policies that confined poor households, especially poor black ones, to these economically isolated areas. The federal government concentrated public housing in segregated inner-city neighborhoods, subsidized metropolitan sprawl, and failed to create affordable housing for low-income families and minorities in rapidly developing suburbs, cutting them off from decent housing, educational, and economic opportunities.
- **A large body of research has demonstrated that concentrated poverty exacts multiple costs on individuals and society.** These costs come in the form of: reduced private-sector investment and local job opportunities; increased prices for the poor; higher levels of crime; negative impacts on mental and physical health; low-quality neighborhood schools; and heavy burdens on local governments that induce out-migration of middle-class households. Together, these factors combine to limit the life chances and quality of life available to residents of high-poverty neighborhoods.
- **With a set of smart policy tools and a booming economy, progress was made in the 1990s towards reducing concentrated poverty in America.** Yet recent federal actions, such as the gutting of the highly successful HOPE VI program, reductions in funding and flexibility for the Housing Choice Voucher program, and proposed cuts to the Earned Income Tax Credit, threaten to reduce mobility for low-income families and erase the advances made in the 1990s.
- **Congress should consider several policy options to put the nation back on track towards alleviating concentrated poverty, by supporting choice and opportunity for lower-income residents in distressed neighborhoods.** Options include: restoring funding to the HOPE VI program; increasing support for housing vouchers; piloting a "housing-to-school" voucher initiative; adopting President Bush's proposed homeownership tax credit; targeting affordable housing to low-poverty areas with the assistance of regional housing corporations; and expanding the EITC to help working families afford housing in better neighborhoods.

Though these policies alone cannot erase the gaps between rich and poor in America, creating more neighborhoods of *choice* and *connection* would offer millions of low-income Americans—especially children—a true chance at social and economic mobility.

Introduction

The devastation wrought by Hurricane Katrina has laid bare many of the disparities that continue to separate Americans by race and class. News coverage of the aftermath in the city of New Orleans revealed that individuals and families left behind were overwhelmingly African American, low-income, and in poor health.

A new Brookings analysis confirms the disparate effect that the city's flooding had on poor, minority households. The flooded area of New Orleans contained 80 percent of the city's minority population, versus 54 percent of its white population. The average household income there lagged that in the city's higher ground by more than \$17,000.¹

Certainly, Hurricane Katrina's lopsided impact on these populations reflects failures at the federal, state, and local levels to mount an adequate response to the impending natural disaster. Yet it also highlights the effects of an even more insidious, long-standing policy of neglect towards the city's most vulnerable residents, exemplified by their continued segregation into neighborhoods of high poverty.

In these neighborhoods—places like New Orleans' Lower Ninth Ward—families are cut off from quality educational, housing, and employment opportunities. Unsafe local environments debilitate residents mentally and physically. That so many people from neighborhoods like these in New Orleans had no friends or relatives to turn to for shelter or financial assistance when disaster struck demonstrates that their location can isolate them socially, as well as geographically. In short, extremely poor neighborhoods serve to limit the life chances and quality of life for poor families that live in their midst, above and beyond the barriers imposed by their own personal circumstances.

Unfortunately, New Orleans is hardly the only place in America where concentrated urban poverty persists. Despite positive trends in the 1990s, almost every major American city still contains neighborhoods that mirror the Lower Ninth Ward demographically and economically. These places did not arise solely as the result of individuals' choices about where to live. Their existence reflects a complicated mix of politics and policies that over the past several decades have reinforced the concentration of racial and ethnic poverty in central cities.

The physical destruction of so much of New Orleans has exacted a heavy economic and psychological toll on the city, its businesses, and its residents. Once the immediate

human and environmental crises subside, however, local and regional leaders will have an unprecedented opportunity to rebuild a New Orleans that is more inclusive, more sustainable, and more economically healthy than its predecessor.

Society need not wait for a natural disaster, however, to address the extreme social and economic problems that continue to plague so many urban neighborhoods and their residents. Federal, state, and local governments have at hand an array of policy tools that can contribute to the dissolution of concentrated poverty, create neighborhoods of choice and connection throughout metropolitan areas, and thereby improve life chances for low-income families. A national investment to address the challenges facing New Orleans after Katrina can be broadened to benefit many cities that mirror its patterns of poverty and disadvantage.

The choice for policymakers, then, is this: fail to act and consign another generation to these distressed neighborhoods, or take bold steps to prevent the next "social Katrina." This paper provides a summary on the extent of concentrated poverty in New Orleans and the rest of urban America, how policies have contributed to the problem, the consequences for families and communities, and what all levels of government can do to create true opportunity for people and places now left behind.

New Orleans—A Troubled City before Katrina

Before Hurricane Katrina struck, New Orleans was a city at once unique and typical. Its architecture, its mix of French, African, Spanish, and Caribbean cultures, its rich artistic history, and its location amid lake, river, and delta shared no equal among U.S. cities. But New Orleans also provided an example of racial and income segregation patterns that pervade most struggling U.S. cities today.

On the very same day that the levees broke in New Orleans, the Census Bureau released its own troubling news about Orleans Parish.² Between 2003 and 2004, the percentage of parish residents living below the poverty line rose from 20.8 percent to 23.2 percent.³ This poverty rate ranked Orleans Parish seventh overall among 290 large U.S. counties in 2004.⁴

The economic hardships borne by New Orleans residents were not shared equally. Poverty and low employment were highly concentrated among the African American population. In 2000, blacks made up 67 percent of the city's total population, but 84 percent of its population below the poverty line. The typical black household had

income one-half that of the typical white household. Troublingly, among out-of-school, out-of-work young men and women in New Orleans, Census 2000 counted just 133 whites, but more than 3,700 blacks.⁵

The most visible divide between blacks and whites in New Orleans, however, concerned the neighborhoods in which they lived. Between 1980 and 2000, segregation between blacks and whites in the city grew, bucking the national trend. By 2000, the average African American resident of New Orleans lived in a neighborhood where 82 percent of fellow residents were black.⁶

Given the high rate of black poverty in the city, it comes as no surprise that the physical separation of the races in New Orleans accompanied the isolation of poor households in poor neighborhoods. Over the past ten years, a growing number of poverty researchers have defined “extreme-poverty” neighborhoods as those in which at least 40 percent of residents have family incomes below the federal poverty threshold.⁷ By this measure, New Orleans alone had 47 extreme-poverty communities in 2000, representing one out of every four neighborhoods in the city, and home to nearly 100,000 residents.

Poor black households in New Orleans were highly concentrated in these high-poverty zones. Of the 131,000 poor people in the city in 2000, nearly 50,000 (38 percent) lived in these neighborhoods. This ranked New Orleans second among large U.S. cities in 2000, and far above the

national average (Table 1). For blacks, this “concentrated poverty rate” was even higher, at 43 percent. Moreover, these distressed neighborhoods were not islands scattered about the city, close to more prosperous sections, but clustered around the downtown and in the city’s economically struggling eastern half.⁸ New Orleans’ many visitors rarely saw such neighborhoods, or even knew they existed.

On nearly every social and economic indicator, New Orleans’ neighborhoods of high poverty lagged far behind the rest of the city and the region as a whole (Table 2). Four in five children were raised in single-parent families. Only 60 percent of working-age residents were attached to the labor market. And only one in 12 adults held a college degree.

Concentrated Poverty Exists Beyond New Orleans

Though concentrated poverty had spread more widely throughout New Orleans than many other American cities, similar pockets of urban distress can be found nationwide.

Cities continue to bear the brunt of the nation’s concentrated poverty. Of the nearly 8 million people living in extreme-poverty neighborhoods in 2000, roughly 6 million (75 percent) inhabited big cities.⁹

Table 1. New Orleans Ranked Second Among Large U.S. Cities on Concentrated Poverty

City	Concentrated Poverty Rate*—Total	Concentrated Poverty Rate—Blacks	Extreme-Poverty Neighborhoods**
Fresno, CA	43.5	44.9	22
New Orleans, LA	37.7	42.6	47
Louisville, KY***	36.7	53.2	11
Miami, FL	36.4	67.6	23
Atlanta, GA	35.8	41.0	28
Long Beach, CA	30.7	26.8	17
Cleveland, OH	29.8	35.6	52
Philadelphia, PA	27.9	27.1	54
Milwaukee, WI	27.0	39.3	42
New York, NY	25.9	33.7	248
U.S. Total	10.3	18.6	2,510

* The concentrated poverty rate reflects the proportion of all poor people citywide who lived in extreme-poverty neighborhoods.

** Extreme-poverty neighborhoods had more than 40 percent of their residents living below the federal poverty threshold in 2000.

*** Louisville, KY defined as of Census 2000, prior to its merger with surrounding Jefferson County, KY.

Source: Census 2000



Table 2. New Orleans' Extremely Poor Neighborhoods Exhibited High Degrees of Social and Economic Disadvantage

Indicator (2000)	Extreme Poverty Neighborhoods	Rest of New Orleans	Metro Area outside New Orleans
Population	99,317	385,317	853,052
Individuals below poverty (%)	54.6	21.6	13.1
Average household income	\$21,267	\$47,918	\$52,577
Average poverty gap*	\$9,640	\$8,563	\$5,880
Children in single-parent families (%)	80.5	46.7	28.1
Adults (age 25 to 64) with college degree (%)	8.5	29.5	20.8
Population (age 21 to 64) with disability (%)	29.0	21.8	19.9
Adult (age 25 to 64) labor force participation (%)	59.5	76.4	76.8
Renter households with housing-cost burden (%)**	49.7	46.7	38.3

* Average amount by which income of poor families falls below poverty line

**Paying at least 30% of income for rent

Source: Census 2000

Notably, this marked an improvement from the prior decade. Between 1970 and 1990, the combined population living in extreme-poverty neighborhoods nationwide doubled. From 1990 to 2000, however, that population dropped by 24 percent. It dropped in cities, too, by a slightly smaller degree (21 percent). In the Midwest, Detroit, Chicago, and Milwaukee exhibited stunning declines in their numbers of high-poverty zones. Even New Orleans shared in the trend, witnessing a 34 percent decline in the number of people living in high-poverty neighborhoods.¹⁰ The national decline was accompanied by an even larger drop in the number of neighborhoods displaying “underclass” characteristics, such as high levels of welfare receipt, female-headed households, and teen dropout rates.¹¹

Still, these distressed neighborhoods remain present in nearly every major American city. As shown in Appendix A, at least one neighborhood of extreme poverty existed in 46 of the 50 largest cities in the U.S. in 2000. In nearly every one of these cities, the rate at which poor minorities (blacks and Hispanics) lived in extremely poor neighborhoods exceeded that for poor whites. Moreover, at least some of the gains made in the 1990s have surely been lost. The economic slowdown and increases in the national poverty rate that have occurred since 2000 suggest that even if concentrated poverty has not begun to rise again, its rapid decline has surely halted.

While New Orleans clearly ranked among the cities with the most geographically concentrated poor populations, many others were not far behind on this measure. Some of these cities were former industrial giants whose populations suffered from severe economic restructur-

ing over the past three decades, such as Cleveland, Milwaukee, and Baltimore. Others like Fresno, Miami, and Los Angeles face ongoing challenges to integrate new immigrant populations, who often arrive in “gateway” neighborhoods with low levels of education and labor market skills, though some may progress “up and out” soon after. Still others lay at the heart of growing regions, like Atlanta, Washington, and Memphis, but continue to grapple with the legacies of racism, segregation, and intergenerational poverty that hold back their most distressed neighborhoods.

In large measure, the conditions present in high-poverty areas of New Orleans—a racially segregated population, lack of married couples and two-earner families, low levels of education, and barriers to labor force participation—are mirrored in these other major cities. The same social and economic disadvantages evident in the Lower Ninth Ward can be found in varying degrees in Atlanta’s Mechanicsville neighborhood, Northeast Philadelphia, North Memphis, Cleveland’s West Side, and the Anacostia section of Washington, D.C.

Government Policies Have Helped to Segregate the Poor

Concentrated poverty is not an inevitable phenomenon. To the contrary, distressed urban neighborhoods owe their current circumstances to decades of politics and policies that directly or indirectly confined poor households, especially poor black ones, to economically isolated inner-city locales.¹²

First, these neighborhoods must be viewed against the

backdrop of their metropolitan communities. Since World War II, the decentralization of economic and residential life has dominated metropolitan growth in the United States. Between 1970 and 2000, suburban population grew at more than three times the rate of central city population (60 percent versus 17 percent). And as people went, so did jobs: Across the nation's largest metropolitan areas today, only 17 percent of the population works within three miles of city downtowns.¹³ These broad decentralizing patterns have exacerbated the concentration of racial and ethnic poverty in central cities, and helped construct metropolitan dividing lines that separate areas of wealth and opportunity from areas of economic distress.

Historic policies contributed to these unbalanced growth patterns.¹⁴ The federal Interstate Highway Act, for instance, literally paved the way for suburban growth and central city decline.¹⁵ Through mid-century, the Federal Housing Administration "red-lined" inner-city minority neighborhoods, and private lenders followed suit, denying these areas access to private-sector capital needed to fuel housing markets.¹⁶ Even today, federal, state, and local transportation, tax, and regulatory policies continue to favor high-income suburban development over investment in urban neighborhoods.

Second, past and current policies have concentrated poor households rather than enhancing their geographic access to opportunity. Until recently, federal housing policies catered almost exclusively to the very poor, and housed them in large developments in the worst-off neighborhoods.¹⁷ Recent policy changes have not altered the fact that most public housing residents still live in neighborhoods of extreme poverty. In New Orleans, for instance, the average neighborhood poverty rate for public housing residents in 2000 was a whopping 74 percent. Even the nation's largest affordable housing production program—the Low-Income Housing Tax Credit—has reinforced this problem by too often funding development in poor central-city neighborhoods.¹⁸ And while federal fair housing laws have struck down the racial covenants long used by suburbs to preclude minority families, local governments still deploy their planning powers to prohibit affordable housing development within their borders, keeping these families locked into distressed parts of the metropolis.¹⁹

Finally, government-funded "neighborhood improvement" strategies over the past four decades, typically carried out by networks of community development corporations (CDCs), have used the production of com-

munity-based affordable housing as the principal vehicle for inner-city revitalization. They have achieved great successes in developing new housing and generating increases in property values in once-struggling locales. However, these neighborhood-based strategies have too often proceeded without regard to the function of the broader metropolitan economy, discounting the importance of helping lower-income families gain access to lower-poverty areas near quality jobs and good schools.²⁰

The history of concentrated poverty in America, then, has seen government vacillate between benign neglect and outright hostility towards these distressed neighborhoods and their residents.²¹ As a result, generations of families have suffered the deleterious consequences of growing up and raising children in neighborhoods that inhibit educational, labor market, and wealth-building progress, and that take a heavy day-to-day toll on their basic quality of life.

Concentrated Poverty Exact Significant Human Costs

Hurricane Katrina demonstrated that in a moment of crisis, many people in New Orleans' high-poverty neighborhoods were cut off from information about the scale of the impending disaster, from private transportation that could help them evacuate the city, and from social networks outside the city that could provide them shelter and assistance.

The impacts of concentrated poverty go far beyond those relevant in the context of a natural disaster, however. A large and growing body of research shows that high-poverty neighborhoods serve to limit the life chances of people living within them, above and beyond what their own personal circumstances would dictate. Several social and economic mechanisms initiate and perpetuate "cycles of poverty" in these neighborhoods. Research has found that concentrated poverty:

- **Reduces private sector activity.** Large numbers of low-income and low-skilled households living in the same place make a community less attractive to private sector investors, employers, and business site location decision makers. In turn, this limits local amenities and job opportunities for residents, and may create a "spatial mismatch" between neighborhood residents and employment centers.²²
- **Raises prices for low-income households.** The lack of business competition and market information in poor neighborhoods can result in their residents paying more than families in middle-income neigh-

borhoods for basic goods and services, like food, car insurance, utilities, and financial services.²³

- **Limits job networks and employment ambitions.** Low levels of labor force participation in distressed neighborhoods may effectively “cut off” these places from the informal networks crucial to helping workers find good jobs and advance in their careers.²⁴ Children and out-of-work adults may fail to regard work as a social norm and may under-invest in education and training necessary for labor market success. Employers may also attach a stigma to extremely poor neighborhoods that discourages them from hiring local residents.²⁵

Many residents of high-poverty neighborhoods do work—over 10,000 households in the area containing New Orleans’ Lower Ninth Ward received the Earned Income Tax Credit (EITC) in 2003, signaling that they had earnings from work. But nearly half these families had incomes under \$10,000, indicating that their employment was most often part-time, unstable, or did not provide family-sustaining wages.²⁶

- **Inhibits educational opportunity.** Children who live in extremely poor urban neighborhoods generally attend neighborhood schools where nearly all the students are poor, and are at greater risk for failure, as expressed by low standardized test results, grade retention, and high drop-out rates.²⁷ Their lower performance owes not only to family background, but also to the “downward pressure” that high-poverty neighborhoods exert on school processes and quality. Schools in these areas are unable to attract the best personnel, endure high rates of student mobility that frustrate classroom stability, and must operate additional systems to cope with disorder and the social welfare of their students.²⁸
- **Stimulates higher levels of crime.** High-poverty, inner-city neighborhoods typically exhibit higher crime rates, especially violent crime rates.²⁹ Research shows that neighborhood peer groups influence adolescents’ propensity to engage in criminal behavior or drug use.³⁰ In these neighborhoods, the social penalties for criminal activity may be lower, and reduced access to jobs and quality schools may lower the opportunity costs of crime.
- **Contributes to poor physical and mental health.** Partly owing to the stress of being poor and marginalized, and partly owing to living in an environment

with dilapidated housing and high crime, people in areas of extreme poverty experience negative health outcomes at much higher rates. Researchers have associated the incidence of depression, asthma, diabetes, and heart ailments with living in these neighborhoods.³¹ Even when the residents of high-poverty areas seek medical attention, they find that the supply of health care is far inferior to that which most suburban residents take for granted.

- **Hinders wealth-building.** While significant numbers of high-poverty neighborhood residents own their homes (59 percent own in New Orleans’ Lower Ninth Ward, for instance), local conditions in these distressed areas lead the market to devalue those assets, and lack of house-price appreciation denies their residents and progeny the wealth accumulated by owners in other parts of the metropolis.³²
- **Burdens local government services and fiscal capacity.** Concentrations of poverty generate high costs for local government—for elevated welfare case loads, for high loads of indigent patients at hospitals and other public health clinics, for extra policing—that can divert resources from the provision of other public services and raise tax burdens on local businesses and non-poor residents.³³ In turn, this can induce out-migration of wealthier households, further eroding local fiscal capacity to address the problems facing vulnerable populations, and refocusing state spending away from the urban core to the suburban fringe.³⁴ These patterns in New Orleans contributed to the city’s current “stressed” income profile.³⁵
- **Creates political and societal divisions.** The spatial divide between segregated poor neighborhoods and wealthier suburban neighborhoods can sow misunderstanding, distrust, and negative assumptions among both groups (especially where racial divisions also exist). The standoff at the bridge over the Mississippi River three days after the levees broke, where St. Bernard Parish police officers stopped a group of largely poor black Orleanians from crossing to safety, was emblematic of these dynamics.³⁶ So, too, were conspiracy theories that circulated among Lower Ninth Ward residents before Katrina that the city had intentionally flooded that district during Hurricane Betsy in 1965 in order to save the French Quarter.³⁷ The physical segregation of poor families, then, may reduce civic capacity for addressing the problems related to their isolation.

In short, the conditions present in high-poverty neighborhoods combine to limit the opportunities, capacities, and ambitions of their residents. Researchers note that these “area effects” do not themselves outweigh the effects of family characteristics on individual outcomes.³⁸ But environments of extreme poverty do exacerbate those forces, and can prevent people from making even modest progress. As one resident of New Orleans’ Lower Ninth Ward remarks, “The aspiration to seek out a better life... isn’t there. Those in poverty don’t have money to go anywhere... their perspective becomes very narrow about possibilities in life. Mostly families here are simply trying to survive.”³⁹

The Way Forward—Create Neighborhoods of Choice and Connection

After the immediate crises in New Orleans have passed, government, civic, and business leaders in the city and region will face the daunting tasks of rebuilding the city physically, and restoring its social fabric. Financial assistance from the federal government, and the commitment of an active citizenry, position New Orleans well to recapture its past grandeur. To do so, leaders must accept the challenge to rebuild in a way that reunites a divided city, and promises better housing, employment, and school options throughout the region for lower-income families.⁴⁰

The opportunities before New Orleans are largely the product of a natural disaster. Yet every day in distressed pockets of urban America, a slow-moving humanitarian disaster traps families in cycles of poverty and despair. The same energy that New Orleanians will bring to the remaking of their city should motivate policymakers at all levels of government to alleviate the concentrations of poverty that hold back other U.S. cities, especially their most vulnerable residents.

The guiding principle must be to create new neighborhoods of *choice* and *connection*. Neighborhoods of *choice* are communities in which people of lower incomes can find a place to start, and as their incomes rise, a place to stay. They are also communities to which people of higher incomes can move, for their amenities, location, and housing value. Neighborhoods of *connection* link families to opportunity, wherever it may be located. They offer connections to good schools, and recognize that the shifting geography of employment demands improved mobility for workers to access good jobs.

This approach to neighborhood development and anti-poverty policy has taken root in an increasing number

of U.S. cities. It recognizes the success of recent efforts to expand opportunities for low-income families beyond high-poverty neighborhoods, and to transform the nation’s worst-off public housing into vibrant new mixed-income communities.

Increasing evidence shows that low-income families and children do better when they are not confined to highly distressed neighborhoods. The Gautreaux Program in Chicago helped over 7,000 Chicago families move from public housing in distressed neighborhoods to private-sector apartments, more than half to the suburbs. Research shows that families who moved to low-poverty suburban neighborhoods exhibited lower welfare receipt, and higher employment, than families who moved to city neighborhoods.⁴⁰ The Moving to Opportunity (MTO) demonstration, which helped families in select U.S. cities make similar moves from public housing to low-poverty suburbs, produced dramatic improvements in health outcomes for parents and children, and reductions in adolescent participation in violent crime.⁴²

What’s more, the HOPE VI Program has over the past ten years catalyzed the transformation of the nation’s most distressed projects into well-designed, mixed-income neighborhoods. In several cities, the program has swiftly converted the most dangerous and dilapidated part of the metropolis into a healthy, vibrant community with rising property values, commercial activity, and resident employment.⁴³ The program engages private-sector developers, the most forward-thinking of whom have married high-quality new housing with local school improvement strategies that have produced impressive gains in student achievement.⁴⁴ Successful HOPE VI projects have engaged local residents in the process, some of whom return to the redeveloped site, others of whom use housing vouchers to access private-sector housing in other lower-poverty parts of the metropolis.⁴⁵

As this evidence shows, we possess the tools to enable public and private-sector leaders to create neighborhoods of choice and connection. Together with the strong economy of the late 1990s, and labor market supports like the Earned Income Tax Credit (EITC), these policy tools helped reduce concentrated poverty and improve life chances for low-income families.

However, a weakened economy, rising poverty rates, and a loss of focus at the federal level over the past few years threaten to cut short, if not reverse altogether, this progress.

To mount a sustained effort to combat concentrated pov-

erty, the federal government must re-embrace housing policies that build on the success achieved in the 1990s, and give disadvantaged communities and their families a shot at true economic and social mobility. While housing policies alone cannot erase the gap between America's rich and poor, and black and white, they represent a key first step towards expanding the opportunities available to families living in high-poverty urban settings. To that end, Congress should devote serious consideration to an array of policy options:

- **Restore funding for HOPE VI and make it a model for neighborhood development.** Though the HOPE VI program has proven a successful strategy for reducing concentrated poverty and restoring market viability to inner cities, funding for the program has been cut drastically over the past two years—from approximately \$500 million in FY 2003 to \$144 million in FY 2005. Federal policymakers should restore the program's funding, enabling new public-private partnerships to rebuild areas of urban distress as inclusive, sustainable communities that connect low-income residents to opportunity. HUD's HOPE VI grant process should emphasize the need for these partnerships to improve schools in redeveloped neighborhoods—a critical factor for achieving sustainable economic and demographic diversity—and to provide comprehensive supportive services for temporarily or permanently relocated families.⁴⁶
- **Increase support for housing vouchers and retain program flexibility.** Today, the Housing Choice Voucher program supplements rent payments for 2 million families and individuals, making it the nation's largest housing assistance program.⁴⁷ Vouchers enable low-income families to access housing in lower-poverty neighborhoods, near better employment and educational opportunities. In addition, vouchers are a key tool for helping lower-income families access private rental units in redeveloped HOPE VI communities. Yet recent years have seen the administration and Congress provide less funding than is needed to serve existing voucher holders, and act to restrict voucher holders' mobility within and across metropolitan housing markets.⁴⁸ This year, Congress should reaffirm its commitment to meeting the affordable housing needs of lower-income families by increasing voucher funding, and retaining program rules that provide recipients with greater choice and flexibility. In particular, Congress should create incentives for local housing agencies to help people move out of the poorest areas by guaranteeing federal funding to cover the higher rents that may result.
- **Pilot a "housing-to-school" voucher program.** To maximize access to quality educational opportunities, Congress should consider funding a special housing voucher initiative. Modeled on the successful MTO demonstration, which assisted a subset of public housing residents in moving to neighborhoods of low poverty, this initiative would permit participating families to move from areas with low-performing schools to areas with high-performing schools. The initiative—which could be launched with 25,000 special housing vouchers—would be conducted on a competitive basis, and would be rigorously evaluated. Preference would be given to applications prepared by metropolitan consortia of public housing agencies, school districts, and non-profit intermediaries.
- **Adopt the President's proposed Single Family Homeownership Tax Credit.** For the past five years, the Administration's budget proposal has called for the creation of a tax credit to builders for constructing affordable single-family homes.⁴⁹ The administration has done little to improve prospects for the credit's adoption, however. Such a credit could provide a powerful tool for improving low and moderate-income families' access to mixed-income neighborhoods, and opportunities to build wealth. Congress should adopt the credit, with modifications to ensure that it supports the development of affordable homes not just in lower-income neighborhoods, but in economically vibrant parts of metropolitan areas as well.
- **Target affordable housing funding to low-poverty neighborhoods.** The federal government should encourage communities to use funding streams for affordable housing, such as HOME and CDBG, to build that housing in low-poverty neighborhoods. In particular, Congress and HUD should consider linking grant funding to the existence and strength of local inclusionary zoning laws, which provide developers with financial incentives to include affordable units as part of new market-rate housing development.⁵⁰ Congress and HUD might also withhold funding from areas that inhibit low-income families' mobility through practices such as moratoriums on multifamily housing, exclusionary zoning rules and lot sizes, and bans on accessory dwelling units. Additionally, the Low Income Housing Tax Credit should be modified to ensure that its proceeds are not directed disproportionately to struggling inner-city areas, but instead promote housing opportunities for lower-in-

come families in mixed-income neighborhoods.

- **Create a network of regional housing corporations.** Over the past three decades, the federal government has supported the creation of a network of community development corporations (CDCs) around the nation. These organizations have helped revitalize inner city neighborhoods through the construction of high-quality affordable housing, but their inner-city focus has sometimes neglected the increasing decentralization of good employment and educational opportunities. To enhance the construction of affordable housing in growing suburban areas, Congress should seed the evolution of a network of regional housing corporations that can perform these functions at a broader metropolitan scale. A network of such regional housing corporations would complement rather than compete with the work of existing CDCs, and some high-performing CDCs might choose to expand their geographic coverage region-wide.
- **Expand the Earned Income Tax Credit and link it to housing costs.** The root of concentrated poverty is poverty—and the federal government’s best tool for combating poverty is the EITC. In 2003, the credit lifted roughly 4.4 million people above the poverty line by boosting the wages of low-income workers, especially those with children.⁵¹ But the EITC could do more, particularly to help these families keep up with the rising costs of decent-quality housing outside disadvantaged neighborhoods.⁵² In this respect, federal policymakers should consider a proposal by Michael Stegman and others that would link the size of the EITC to median housing costs calculated each year by HUD, allowing more working families to afford moderately-priced units in most metropolitan areas.⁵³ Congress could also make the most of the current EITC by providing modest funding for hundreds of locally-run campaigns working to ensure that all eligible families receive the credit and related tax benefits.⁵⁴

Beyond housing and neighborhood policies, a host of actions at all levels of government will be needed to close the divides that Katrina exposed. Housing strategies alone will not suffice. Maintaining and expanding supports like child care and subsidized health insurance, promoting access to lower-priced goods and services for inner-city residents, and reforming state and local policies that contribute to unbalanced metropolitan growth, loom critical in this regard.

For millions of low-income Americans in isolated inner-city areas, overcoming concentrated urban poverty and gaining access to neighborhoods of choice and connection are essential steps toward improving their quality of life, and ensuring their future economic and social mobility. Just as New Orleans’ poor were stranded in Katrina’s wake, failure to act on a national level to alleviate concentrated poverty threatens to leave behind another generation of the urban poor. Americans’ reactions to Katrina show that we are deeply concerned about the persistence of poverty. Now is the time to act on those concerns, and not allow what we have learned to fade away with the memories of the hurricane’s disturbing aftermath.



Appendix A. Extreme-Poverty Neighborhoods^a, and Percentage of Poor People Living in those Neighborhoods, by Race/Ethnicity, 50 Largest Cities in the U.S., 2000

City	Concentrated Poverty Rate (%)				Extreme-Poverty Neighborhoods
	Total	Blacks	Whites	Hispanics	
Fresno, CA	43.5	44.9	17.9	49.6	22
New Orleans, LA	37.7	42.6	10.9	18.0	47
Louisville ^b , KY	36.7	53.2	14.3	24.3	11
Miami, FL	36.4	67.6	11.5	18.0	23
Atlanta, GA	35.8	41.0	9.0	14.2	28
Long Beach, CA	30.7	26.8	11.4	36.8	17
Cleveland, OH	29.8	35.6	16.1	24.6	52
Philadelphia, PA	27.9	27.1	10.7	61.6	54
Milwaukee, WI	27.0	39.3	10.4	5.9	42
New York, NY	25.9	33.7	11.4	33.5	248
Washington, DC	23.8	29.2	6.4	1.7	23
Memphis, TN	23.7	28.8	4.2	2.7	34
Baltimore, MD	22.7	27.1	7.4	8.5	30
Los Angeles, CA	22.4	29.7	8.8	25.0	103
Minneapolis, MN	20.6	20.3	19.8	12.6	12
El Paso, TX	20.5	9.2	9.8	21.5	14
Chicago, IL	19.9	32.0	2.5	6.8	110
Detroit, MI	17.5	17.8	15.4	10.4	47
Columbus ^c , OH	16.8	16.9	16.9	12.6	13
San Diego, CA	16.4	18.1	5.7	23.6	17
Oklahoma City ^c , OK	14.3	13.1	11.2	22.9	16
Phoenix, AZ	13.6	19.8	3.7	17.2	22
Nashville, TN	13.4	24.6	3.4	1.7	7
Austin, TX	12.0	9.5	17.2	7.0	5
Boston, MA	10.8	8.3	9.7	14.8	12
Tulsa, OK	10.6	20.6	6.0	4.9	6
Fort Worth, TX	9.7	19.9	4.3	4.3	8
Oakland, CA	9.5	14.6	6.6	4.6	7
Honolulu, HI	9.4	19.7	2.6	6.8	5
Kansas City, MO	9.2	13.2	3.0	7.2	11
Dallas, TX	9.1	18.1	2.6	5.3	17
San Antonio, TX	8.9	15.1	2.9	9.6	17
Jacksonville, FL	8.8	14.4	2.6	1.4	7
Sacramento, CA	8.3	8.5	4.4	10.9	4
Houston ^c , TX	8.1	19.5	1.6	3.5	23
Seattle, WA	7.0	6.3	5.9	4.2	4
Omaha, NE	5.7	13.3	1.8	0.8	3
Charlotte, NC	4.7	9.0	0.5	0.1	4
Albuquerque, NM	4.5	6.9	2.9	5.6	2
Portland, OR	3.6	2.3	4.2	1.8	3
Denver, CO	3.3	3.3	1.5	4.2	2
San Francisco, CA	2.8	12.6	0.0	0.2	1
Tucson, AZ	2.7	2.8	3.8	1.3	3
Las Vegas, NV	2.4	7.6	1.0	1.2	1
Indianapolis, IN	2.3	4.5	0.5	0.3	3
Colorado Springs, CO	2.1	1.4	1.9	2.5	1
Arlington, TX	0.0	0.0	0.0	0.0	0
Mesa, AZ	0.0	0.0	0.0	0.0	0
San Jose, CA	0.0	0.0	0.0	0.0	0
Virginia Beach, VA	0.0	0.0	0.0	0.0	0
UNITED STATES	10.3	18.6	5.9	13.8	2,510

^a Extreme-poverty neighborhoods are census tracts in which at least 40 percent of the population lives in families with incomes below the federal poverty threshold. Because census tracts, our proxy for neighborhoods, do not align exactly with city boundaries in all cases, these figures represent our best estimates of the true concentrated poverty rates in these cities in 2000. In most cases, the census tracts analyzed slightly over-bound the city borders, so that the rates are estimated conservatively (since neighborhoods outside the city may contain more people but are not likely to exhibit extreme poverty).

^b Louisville as of 2000, prior to the central city's merger with Jefferson County, KY, in 2003.

^c Discrepancy between city population and census-tract aggregate population exceeds 20 percent. These cities have annexed significant suburban territory and thus their borders do not align well with census tracts.

Source: Census 2000

Endnotes

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Alan Berube and Elizabeth Kneebone | September 22, 2011 9:28am

Parsing U.S. Poverty at the Metropolitan Level



Last week's data from the Census Bureau on poverty and income provided some hints as to the impact of the Great Recession in U.S. regions and metropolitan areas. The picture becomes clearer today with the release of data from the 2010 American Community Survey. They portray a bleak period in metro areas that swelled the ranks of the poor and punctuated a decade of economic stagnation for the middle class. Here are five trends that stood out to us in an initial scan of income and poverty data for the nation's 100 largest metro areas:

The Great Recession raised poverty rates and reduced household incomes in the vast majority of metro areas. The deep downturn left relatively few places untouched. Among the 100 largest metro areas, poverty rates rose in 79, and median household incomes declined in 82, between 2007 and 2010.

Nearly all large metro areas ended the decade with lower median incomes than in 2000. From 2000 to 2010, incomes declined in 91 of the 100 largest metro areas, and poverty rose in 88. In many, the recession merely exacerbated a negative pre-existing trend. In the first seven years of the decade, median household income fell in 70 metro areas, and poverty rates rose in 48. Census 2000 captured U.S. households at a high-water mark economically, a far different situation than they faced in 2010, or even before the Great Recession began.

Median Household Income Change in the Largest 100 Metro Areas

Large poverty increases brought on by the Great Recession began in housing-bust and manufacturing-oriented metro areas, but subsequently spread to other places in the South and West. Over the first two years of the downturn, Sun Belt metro areas on the front lines of the housing market collapse—in Florida, the Intermountain West, and inland California—registered the largest increases in poverty rates. They were joined by a handful of metro areas in the nation’s manufacturing belt like Indianapolis and Cleveland. Several of these places continued to experience rising poverty from 2009 to 2010, but the most affected places included a broader set of metro areas in the Southeast like Columbia, Birmingham, and Nashville; in other parts of the West like Salt Lake City and Colorado Springs; and in previously better-off regions like Austin

and Omaha.

The recession increased overall poverty rates in cities and suburbs by similar degrees. From 2007 to 2010, the poverty rate in major-metro cities rose 2.9 percentage points, compared to 2.3 percentage points in suburbs. Older Northern regions like Akron, Baltimore, New Haven, and Rochester tended to experience much larger increases in city than suburban poverty, while some Southern and Western regions like Oklahoma City, Orlando, and Seattle saw poverty rates rise more in suburbs than cities. Overall, the poverty rate in cities (20.9 percent) remained far higher than that in suburbs (11.4 percent) in 2010.

Poor populations continued their decade-long shift toward suburban areas. A combination of factors including overall population growth, job decentralization, aging of housing, immigration, region-wide economic decline, and policies to promote mobility of low-income households led increasing shares of the poor to inhabit suburbs over the decade. From 2000 to 2010, the number of poor individuals in major-metro suburbs grew 53 percent, compared to 23 percent in cities. In 16 metro areas, including Atlanta, Austin, Dallas, Indianapolis, and Milwaukee, the suburban poor population more than doubled during that time. The recession merely served to accelerate the trend, as suburbs added 3.4 million poor from 2007 to 2010—1.4 million more poor individuals than cities.

Change in Suburban Poor Population in the Largest 95 Metro Areas

Meager job growth and unemployment rate declines over the past year seem sure to extend many of the worrisome trends portrayed in the new data. As always, though, metro areas will chart distinct trajectories amid a sluggish national recovery. Can any manage to grow in ways that actually benefit low- to middle-income families? And knowing that things are likely to get worse before they get better, can metro areas adapt a traditionally city-focused social services infrastructure for helping the poor to the reality of increasingly region-wide needs?

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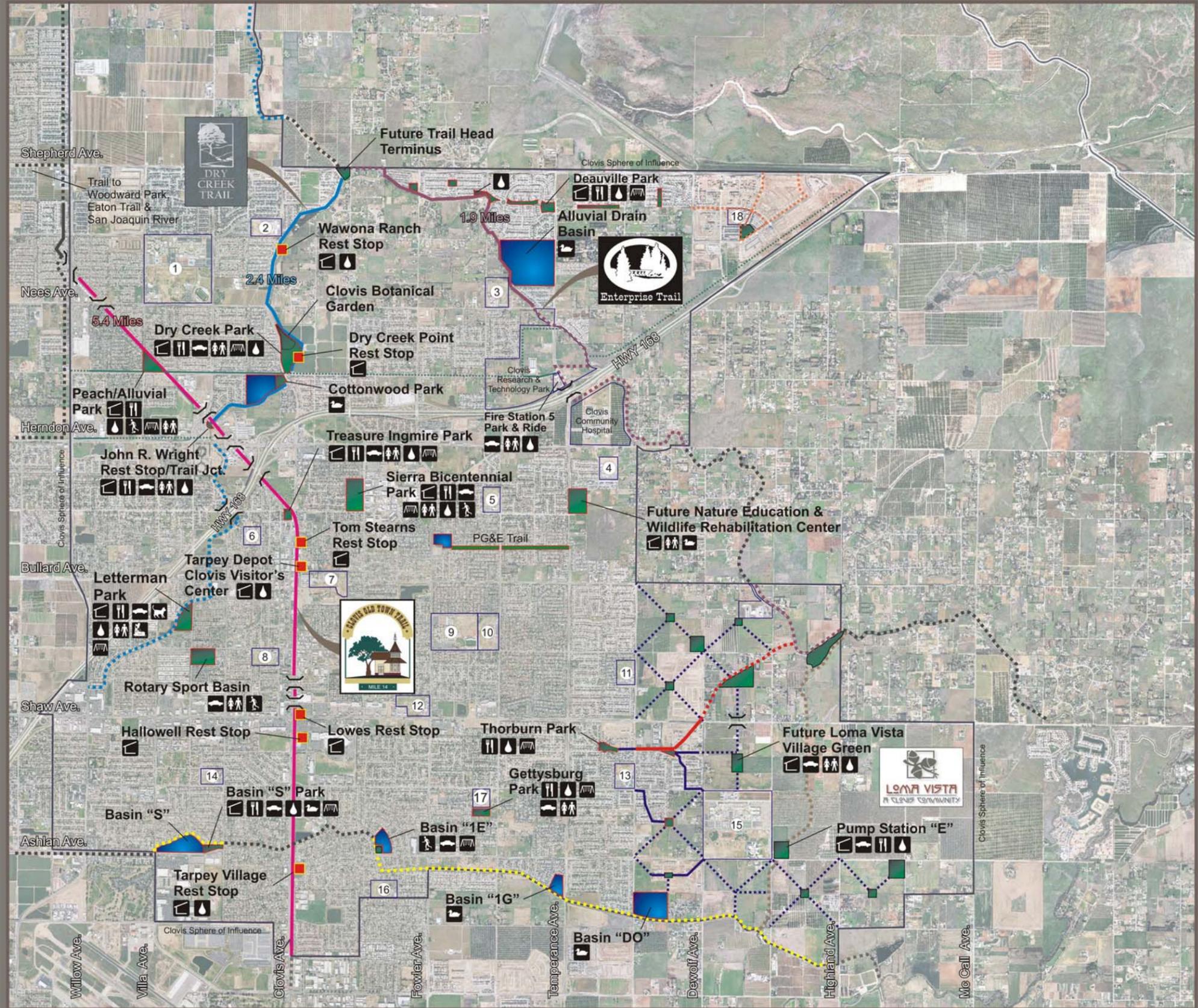
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Elizabeth Kneebone

Senior Research Associate, Metropolitan Policy Program

Trails of Clovis



LEGEND

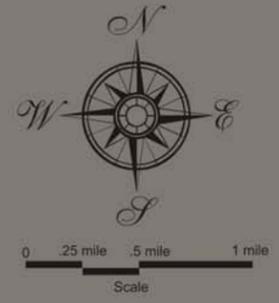
- Clovis Old Town Trail
- Dry Creek Trail
- Enterprise Trail
- Jefferson Trail
- Gould Trail
- Dog Creek Trail
- Loma Vista Paseos
- Harlan Ranch Trails
- County Trails
- Greenbelt Paths
- Grade Separated Crossing
- (Solid line indicates existing trail)



- Parks
- Future Parks
- Rest Stops
- Wild Fowl Basins

Shelter	Play Equipment
Picnic	Drinking Fountains
Parking	Sports Field
Restrooms	Wildlife Viewing
Skate Park	Animal Adoption Center

- Schools**
- 1 Buchanan Educational Center
 - 2 Woods Elementary
 - 3 Dry Creek Elementary
 - 4 Cedarwood Elementary
 - 5 Mickey Cox Elementary
 - 6 Weldon Elementary
 - 7 Clark Intermediate
 - 8 Sierra Vista Elementary
 - 9 Clovis High
 - 10 Clovis Elementary
 - 11 Red Bank Elementary
 - 12 Jefferson Elementary
 - 13 Freedom Elementary
 - 14 Tarpey Elementary
 - 15 Reagan Educational Center
 - 16 Miramonte Elementary
 - 17 Gettysburg Elementary
 - 18 Bud Rank Elementary



Fresno Area
30 Year Average Precipitation
Based on the Calendar Year,
1897-2012

