The Sustainable Communities Initiative

EQUITY IN SUSTAINABLE COMMUNITIES ISSUE BRIEFS

PERE
USC Program for Environmental & Regional Equity

EQUITY ISSUE BRIEF:

Advancing Environmental Justice through Sustainability Planning

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Executive Summary

This brief is one in a series that PolicyLink and the University of Southern California Program for Environmental and Regional Equity (PERE) are assembling for the federal Sustainable Communities Initiative (SCI), an interagency effort coordinated by the U.S. EPA, the U.S Housing and Urban Development (HUD), and the U.S. Department of Transportation (DOT). The series is intended to support a learning community of regional and local governments focused on integrating equity (economic, social, and environmental) into plans and projects. In this brief, we explain how SCI participants can work to achieve environmental justice in their communities—and why this is a key aspect of creating sustainable regions.

What Is Environmental Justice?

Environmental justice (EJ) is rooted in the belief that all people, regardless of race, ethnicity, gender, or income, have the right to a clean and healthy environment in which to live, work, go to school, play, and pray. Study after study, however, has shown that low-income communities of color disproportionately bear the health and environmental burdens—and, concurrently, do not experience the benefits—that come from planning and development. Regions can achieve EJ when everyone enjoys equal access to decision-making processes and can engage meaningfully in decisions regarding the distribution of both benefits and burdens of new plans and projects.

While initial EJ efforts focused on the disproportionate siting of toxic waste dumps in low-income communities of color, environmental justice has since expanded to include a range of issues. Some (but certainly not all) of the most pressing environmental injustices facing communities today include:

- **Industrial pollution**: While sectors like manufacturing and warehousing provide much-needed jobs, industrial facilities release toxics that contribute to both air and water pollution—but this pollution is not distributed equally. In fact, a 2007 study found that race, regardless of income, is the dominant factor in an individual's likely proximity to industrial pollution.
- **Goods movement**: Goods movement industries rely heavily on diesel-run vehicles, namely ships, trucks, and trains, which release hazardous particulate matter into surrounding neighborhoods. Communities adjacent to trade hubs and corridors—predominantly low-income communities of color—disproportionately suffer from health conditions such as respiratory problems, cardiovascular difficulties, and cancer.

What Does Environmental Justice Have to Do with Sustainability?

Environmental justice is good for everyone. While EJ has its foundation in different environmental outcomes by race, a 2010 study found that wherever toxic exposure is worse for some, it is worse for all. Other studies have found that closing the income gap and leveling the political playing field can also lead to healthier environments for all Americans. In that sense, EJ and environmental sustainability are inextricably linked.

Why Tackle Environmental Justice at the Regional Level?

While reversing environmental injustices is indeed necessary at the local and national levels, SCI participants would do well to pay attention to EJ at the regional level for three reasons:

1. Each region has its own set of industries and accompanying pollution problems;
2. Regional bodies coordinate transportation and goods movement systems that have significant environmental impacts; and
3. Land use systems and policies to create sustainable regions are most likely to be changed at regional levels.

- **Urban sprawl**: Racial discrimination in the U.S. housing market resulted in concentrated poverty among people of color in urban cores, while more affluent white Americans settled in the suburbs. The concurrent explosion of U.S. highways designed for suburban residents commuting to urban workplaces physically and culturally severed urban communities. Ironically, communities of color in city centers, which have much lower access to private automobiles, suffer the health consequences of increased pollution without the benefit or convenience of highway use—as well as a lack of access to adequate transit options.
- **Smart growth and displacement**: Cities and regions have started to implement smart growth strategies that encourage compact development to reduce the environmental and health effects of urban sprawl and auto dependence—which is resulting in improvements to quality of life in city centers. Increasing the desirability of living in urban neighborhoods, however, may increase real estate prices beyond the reach of low-income residents already living there and displace existing communities.
- **Transportation inequity**: Urban sprawl has also led to a jobs-housing imbalance and, increasingly, a lack of affordable homes near workplaces. This is particularly burdensome for low-income workers who rely on infrequent and often unreliable public transportation.

SCI Grantees Advance Environmental Justice through Sustainability Planning

In **New Orleans**, SCI consortium members are working to reconnect predominantly low-income neighborhoods that were severed by the 1960s highway construction. The City plans to re-vision the corridor as an integral part of the regional transit system, connecting public transit, pedestrian, and bicycle networks in the hopes of relieving families of rising transportation costs and better connecting residents to jobs.

In **California's San Joaquin Valley**, SCI consortium members—including government agencies and community—are working together to curb urban sprawl and address poverty by redirecting investment from new development on the urban fringe to existing neighborhoods and along major corridors closer to city centers. In particular, the **City of Fresno** recently updated its general plan to require that new growth stays within a narrow buffer surrounding the city center in the hopes of minimizing sprawl and improving quality of life for existing residents through affordable housing, improved transit, parks, and grocery stores.

In the **Puget Sound** region, SCI consortium members are working to ensure that the construction of the region's new light-rail system adequately serves the community without displacing current residents. For example, the City of Seattle is granting transit-oriented development acquisition loans that help developers purchase vacant land near light-rail stations to build mixed-use projects that include affordable housing and commercial space for small businesses and community facilities.

What are some ways that those involved in SCI activities can tackle environmental justice in their regions?

Despite the many environmental injustices facing communities, there are solutions to the problems that will help make regions both more equitable and sustainable. While we recognize that environmental justice is a vast field ranging from air pollution to transit availability to housing affordability, we focus here on three specific areas that help advance environmental justice through sustainability planning: 1) **developing tools** to measure health risks and environmental hazards that threaten local communities; 2) **authentically engaging and collaborating with communities** facing these problems in their daily lives; and 3) building in concerns about environmental disparities into the **next big issue facing regions—climate change**.

1. Measuring Environmental Justice with a Cumulative Impacts Approach

While there are multiple ways to measure EJ, assessing the **cumulative impact (CI)** of environmental injustices can provide planners and residents with a more comprehensive understanding of inequities by going beyond traditional measures of toxicity. In addition to measuring environmental and health hazards, CI methods examine social and economic vulnerabilities that affect communities' susceptibility to environmental injustices. One such measure includes the **Environmental Justice Screening Method (EJSM)**, which was developed jointly by researchers and community members. The EJSM derives a CI score based on 29 indicators that are organized into three categories: 1) hazard proximity and land use; 2) air pollution exposure and estimated health risk; and 3) social and health vulnerability. The score reflects an area's health burden, which helps local and regional governments, community groups, and other stakeholders identify and prioritize areas of high need within their area.

2. Authentically Collaborating with Communities

Community involvement is at the core of achieving environmental justice. It is critical at all stages of planning, not just at federally mandated public meetings that take place late in the planning process. Authentic community participation requires an earnest investment in resources and community-based partnerships to get people involved early in the process—including on-the-ground data collection and analysis. Traditional means of community engagement, such as one-time public meetings held at inconvenient times and locations near the end of planning processes, may disenfranchise low-income residents or those for whom formal methods of gathering community opinions are intimidating. In sum, to ensure that the benefits and burdens of new plans and projects are equally distributed, those involved in SCI activities should get people involved early, provide them with resources so they can fully participate, and ensure that outcomes reflect participation and local needs.

3. Planning for the Next Major Environmental Justice Issue: Climate Change

While climate change will affect everyone, evidence suggests it will deeply impact the most vulnerable communities. For instance, with the onset of climate change, these communities will suffer more extreme weather events, breathe dirtier air, pay more for basic necessities, and have fewer or shifting job opportunities. And while addressing climate change could therefore serve the imperative of EJ, policymakers cannot assume that all climate change strategies promote health and equity. For instance, while smart growth initiatives help reduce overall vehicle emissions through compact development, these strategies could lead to the concentration of pollutants around transit centers. Therefore, policymakers may need to consider supplemental strategies such as surcharges to force emissions reductions in highly impacted areas and "community benefit" funds to support neighborhoods that disproportionately bear the climate change burden. Currently, community-based efforts are leading the charge in putting forth equitable climate change planning initiatives, and planners would do well to partner with community-based organizations doing "climate justice" work through consultation, funding, and/or other resource allocation.

Introduction

In August 2012, the predominantly low-income residents of color in Richmond, California—a dense urban community in the San Francisco Bay Area—experienced the devastating health consequences of a massive fire at the local Chevron refinery.[1] Over 900 residents sought medical care immediately following the toxic explosion, while the City ordered tens of thousands of residents to stay confined in their homes to avoid toxic exposure.[2]

While this incident reflects the acute risk of an immediate crisis, this community is accustomed to chronic pollution from nearby industrial sources and its resulting health issues. Indeed, Richmond is one of many communities that have endured a simmering crisis of environmental health and environmental disparity for decades. Study after study has shown that low-income communities of color disproportionately bear the health and environmental burdens associated with industrial development.[3] So, while vulnerability to pollution affects us all, it is not an equal opportunity affair.

But it is not just pollution that plagues these communities. While the hazardous byproducts of our transportation networks disproportionately harm the health of low-income residents living close to freeways, these same communities remain underserved by mass transit. While the movement of goods from ports to warehouses to stores releases toxic diesel emissions in adjacent low-income neighborhoods, many workers in these communities find it difficult to earn a living wage in goods movement industries. In short, inequalities arise from the uneven distribution of both the burdens *and* benefits of plans and projects—a phenomenon widely known as environmental injustice.

Although these inequalities affect people most directly at the neighborhood level, uneven distribution of these burdens and benefits widens inequality at the regional level. Additionally, many environmental justice concerns, such as air pollution, are not confined to neighborhood or city boundaries, but rather span regions. And while it is the U.S. EPA, state EPAs, and local Air Quality Management Districts (AQMDs) that are primarily responsible for addressing these environmental problems, those involved in city and regional planning can help.

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We begin this brief by defining environmental justice and explaining why it is important for regional sustainability. We provide a brief history of community and government action and highlight some environmental justice issues facing communities today. We also suggest that this is not just a question of addressing disparities: much as emerging research has suggested the economic inequality can damage overall regional prosperity, new research is suggesting that environmental inequality can diminish overall environmental quality.[4] There is both an equity and an efficiency rationale for making environmental justice concerns central to regional planning.

We then acknowledge that environmental justice is a vast and complicated field with many dimensions—not too many to tackle through long-term strategic planning, but too many to cover in a short policy brief. To conserve time and preserve focus, we concentrate on three specific areas that those involved in the Sustainable Communities Initiative can take on to address environmental justice across issue areas and regions. First, we show how to measure environmental justice by introducing the idea of "cumulative impacts," which gives a full picture of community burden and emphasizes the importance of evaluating both health risks and social vulnerability. Second, we focus on the centrality of community engagement in addressing environmental justice through

program and policy development. Third, we introduce "climate justice" as a next frontier for environmental justice struggles and sustainability planning.

What Is Environmental Justice?

Environmental justice (EJ) is rooted in the belief that all people, regardless of race, ethnicity, gender, or income, have the right to a clean and healthy environment in which to live, work, go to school, play, and pray.[5] According to the U.S. EPA, EJ ensures all communities are entitled to equal protection "with respect to the development, implementation, and enforcement of environmental laws, regulations and policies."[6] Most importantly, regions can achieve EJ when everyone enjoys equal access to decision-making processes and can engage meaningfully in decisions regarding the distribution of benefits and burdens of new projects and plans.

Ample evidence (which we present below) shows that low-income communities and communities of color disproportionately bear health and environmental burdens resulting from development patterns—such as pollution from oil refineries, poor access to healthy foods, and long commutes due to a lack of affordable housing near jobs.[7] Because low-income communities of color are most affected by planning processes surrounding toxic facilities and other development resulting in environmental and health hazards, their voices are critical pieces of planning for the future. Local knowledge is critical to understanding on-the-ground activities of polluters and potential hidden hazards about which government officials may be unaware. But while local grassroots involvement is essential to addressing environmental injustice in regions today, these communities are too often excluded from the decision-making table. As we explain in this brief, SCI consortium members have the opportunity to address these disparities, which will greatly improve overall sustainability of regions.

Which Came First, Toxic Facilities or Communities of Color?

There is much evidence showing that environmental hazards disproportionately burden communities of color—particularly, as Mohai and Saha (2006) point out, when measuring the proximity between hazardous sites and nearby residential populations within regions.

The question, then, is one of causality: which came first? Were the hazards disproportionately sited in communities of color, or did these residents move in after hazards were sited? In a 2001 study of environmental justice communities in Los Angeles, Pastor, Sadd, and Hipp find that hazards follow communities of color rather than the other way around. Demographics reflecting political weakness, including a higher presence of people of color, a lower presence of homeowners, or a significant degree of "ethnic churning" (that is, when a neighborhood's racial and ethnic demography changes quickly over a short period) attract toxic waste facilities. The results also suggest that areas undergoing ethnic transition may be as vulnerable to siting as areas with older or more established populations of color. The authors suggest that planners should address this through a comprehensive policy approach rather than on a site-by-site basis. Additionally, since siting often occurs in communities of color going through racial/ethnic transitions, the authors also suggest that multi-racial organizing could be an effective strategy to resisting disproportionate toxic siting.

Paul Mohai and Robin Saha, "Reassessing Racial and Socioeconomic Disparities in Environmental Justice Research," *Demography* 43, 2 (2006): 383-399.

Manuel Pastor, Jim Sadd, and John Hipp, "Which Came First? Toxic Facilities, Minority Move-in, and Environmental Justice," *Journal of Urban Affairs* 23, 1 (2001): 1-21.

Origins of Environmental Justice

Similar to other social movements, the EJ movement grew out of several struggles that accumulated over time, rather than a single incident.[8] One widely-known action occurred in 1982, when a coalition of nearly 500 residents, land owners, and civil rights activists held a 6-week protest against the construction of a hazardous waste landfill in Warren County, North Carolina—a rural area with a majority of low-income African American residents.[9] Although the landfill was built, EJ scholar and activist Robert

Bullard suggests that the Warren County protest succeeded in mobilizing one of the first broad-based groups to oppose racist siting of toxic materials and helped point a national spotlight on environmental justice concerns.[10]

Following the Warren County protest, the United Church of Christ (UCC) Commission for Racial Justice led the first nationwide study documenting the discriminatory practice of locating hazardous waste facilities in residential neighborhoods of color. In 1987, it released the seminal study *Toxic Wastes and Race in the United States*, revealing that race was far more significant than any other factor—including income—in explaining the location of hazardous facilities throughout the country.[11] The report helped raise awareness about the phenomenon of "environmental racism" across the nation.[12]

By 1991, over 1,000 people attended the First National People of Color Environmental Leadership Summit in Washington, DC to bring about national policy action against environmental injustices.[13] Three years later, then-President Clinton responded to EJ concerns by signing *Executive Order (E.O.) #12898 on Environmental Justice*. This mandate required federal action and future consideration of the disproportionately high and adverse environmental burdens on low-income communities and people of color.[14] The order expanded protection from the basis of race, color, and national origin (established by Title VI of the Civil Rights Act of 1964) to protect low-income individuals. It also requires government agencies at all levels—local, regional, state, and federal—to consider meaningful engagement of residents and to address the disproportionate burdens and lack of benefits within communities of color for all their projects moving forward.

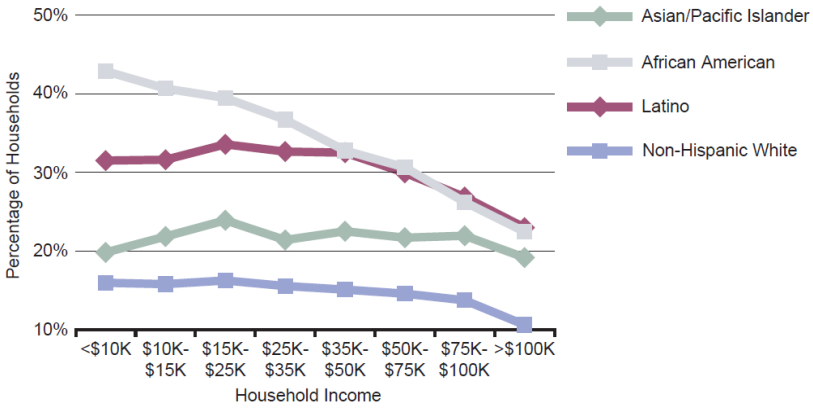
A Snapshot of Environmental Justice Issues Facing Communities Today

Today, environmental justice concerns span many issues, from dirty diesel trucks to brownfields to transit availability to housing affordability. As we mentioned above, environmental injustice arises from the uneven distribution of burdens *and* benefits of plans and projects. Here, we provide a brief overview of some (but certainly not all) of the most pressing EJ issues facing communities and regions—issues that matter significantly for SCI consortium members striving to create more sustainable and equitable regions—and offer a few examples of how SCI grantees are working to address these EJ concerns as part of planning for sustainability.

Industrial Pollution

While industrial sectors such as manufacturing provide high quality jobs—obviously very important for growing regional economies—these sectors also pose serious health and environmental problems for surrounding neighborhoods. Industrial facilities often release toxics that can create both air and water pollution, leading to health problems for nearby residents, mostly low-income residents of color. In their 2007 study of environmental disparities, Pastor, Morello-Frosch, and Sadd show that people of color live in closer proximity to toxic air emissions from large industrial facilities than more affluent white communities (see Figure 1).[15] Perhaps the most striking fact from the study—and one found in other settings—was that low-income whites were actually less likely to be close to a toxic release facility than high-income African Americans; in keeping with the early UCC study and a subsequent "meta-study" of a range of research, race actually dominates income in explaining proximity to hazards.[16]

Figure 1. Percent of Households within One Mile of an Active Toxic Release Inventory (2003) by Race and Income in the 9-County San Francisco Bay Area



Source: Pastor, Morello-Frosch and Sadd, *Still Toxic After All These Years: Air Quality and Environmental Justice in the San Francisco Bay Area*, 7.

Goods Movement

EJ issues also exist within our country's goods movement system. The rapid expansion of logistics industries across the country—particularly freight transport between ports, warehouses, distribution centers, and retail stores—greatly contributes to economic growth, yet, like industrial development, poses real environmental and health threats to communities adjacent to freight facilities. Because goods movement industries rely heavily on diesel-run vehicles—namely ships, trucks, and trains, which release hazardous particulate matter into surrounding areas—communities adjacent to trade hubs and corridors disproportionately suffer from health conditions such as respiratory problems, cardiovascular difficulties, and cancer.[17]

Urban Sprawl

Many of the environmental injustices facing low-income communities of color today have their roots in the nation's long history of racial discrimination and segregation in the housing market. Over the last half century, much of the nation's infrastructure investment—in terms of land use and transportation—followed white flight to the suburbs resulting in large-scale disinvestment in the urban cores and simultaneous urban sprawl. Racial discrimination in the housing market, through tactics such as red-lining and racial housing covenants, perpetuated urban sprawl and led to the concentration of poverty in the urban core. Eventually, middle-class minority residents also left, with further concentration of poverty the result.

While urban sprawl certainly had negative consequences for white middle-class residents—such as a lack of "walkable" neighborhoods and increased obesity—many of the economic and environmental problems fell on the shoulders of communities of color. Inner-city communities of color were not only isolated from economic and educational opportunities, but they were disproportionately burdened on the environmental health side with the loss of urban amenities and the legacy of older industrial uses.[18]

Meanwhile, U.S. highway construction catered to suburban residents commuting to central cities for work and consequently fractured low-income urban neighborhoods, disrupting community cohesion, and leaving many low-income communities of color crisscrossed with roadways that leave harmful vehicle emissions and cause increased health problems.[19] Ironically, low-income people are less likely to use private automobiles than more affluent people even as their geographic location means they often disproportionately carry the burdens of health problems from traffic-related pollutants.

In California's San Joaquin Valley, SCI consortium members—including government agencies and community-based organizations—are working together to curb urban sprawl and address poverty by redirecting investment from new development on the urban fringe to existing neighborhoods and along major corridors closer to city centers. In particular, the City of Fresno recently updated its general plan to require that new growth stays within a narrow buffer surrounding the city center in the hopes of minimizing sprawl and improving quality of life for existing residents through affordable housing, adequate public transit, parks, and grocery stores.[20]

Transportation Inequity

Dependence on the automobile and a focus on suburban development have led to significant transportation problems and inequities. Low-income people have lower access to automobiles, and thus rely on local transit services for their mobility needs. By devoting federal and regional transportation funding to highway construction and costly rail projects that do not necessarily serve low-income communities of color, rather than more cost effective bus infrastructure, bike lanes, and sidewalks, localities often deny these communities access to adequate transportation options.[21]

Suburban development and urban sprawl have made it so people are living farther and farther away from where they work. This is particularly harmful for low-wage workers who lack access to cars, and thus spend much more time commuting on transit, which is often infrequent and unreliable.

In New Orleans, SCI consortium members are working to reconnect predominantly low-income neighborhoods that were severed in the 1960s by the construction of the Claiborne/elevated I-10 expressway. Specifically, the City plans to re-vision the corridor as an integral part of the regional transit system, connecting public transit,

pedestrian, and bicycle networks in the hopes of relieving families of rising transportation costs and better connecting residents to jobs.[22]

Smart Growth and Displacement

To curb the many problems associated with urban sprawl and auto dependence, planners have started to implement smart growth strategies, which aim to decrease both the amount of greenhouse gas (GHG) emissions emitted per mile of travel (e.g., public transit projects) and reduce the overall miles traveled (e.g., developing housing projects closer to job opportunities) through compact development. By bringing destinations closer together and investing in transportation infrastructure within existing neighborhoods, smart growth approaches can also make biking and walking safer for those who already depend on it as their primary mode of transportation. Thus, eliminating dependence on car use and increasing alternative transportation options could play an important role in decreasing GHG emissions, reducing air pollution, increasing physical activity, and providing adequate transportation options for those without access to cars.

Unfortunately, re-investment in urban neighborhoods through the use of smart growth strategies can and has led to the displacement of existing low-income residents in urban centers. Increasing the desirability of real estate in a neighborhood can increase housing values, which can potentially price existing residents out. While economic development is necessary in these urban communities, which have experienced systemic disinvestment for decades, it is also necessary to implement revitalization through strategic planning, strong community engagement, and attention to affordability.[23]

In the Puget Sound region, for example, SCI consortium members are working to ensure that the construction of the region's new light-rail system adequately serves the community without displacing current residents. The City of Seattle, for example, is granting transit-oriented development acquisition loans that help developers purchase vacant land near light-rail stations to build mixed-use projects that include affordable housing and commercial space for small businesses and community facilities.[24]

Nowhere to Hide: Disasters Cast the Spotlight on Environmental Injustice

Many of the images of Hurricane Katrina—African American families stranded atop roofs, others wallowing in the Superdome, still others begging for transport—helped make clear the face of environmental injustice. Many marginalized neighborhoods, already struggling with poverty and environmental hazards, were further pushed to the edge by the floods. Before Katrina, people of color were more likely to be underprepared and uninsured; during the hurricane, because of social and language barriers, they were less exposed to warnings and more likely to encounter ethnic insensitivity from relief workers and government officials.

Afterward, the communities suffered slow recoveries, something typical of disasters in which low-income and minority residents have less insurance and lower incomes; receive less information, fewer loans, and less government relief; and encounter bias in the search for replacement housing. This "second disaster," which plays out for those with few economic or political resources, is also devastating, in a more insidious way. So, stepping up traditional disaster planning efforts is part of the solution, but so too is focusing on health, environmental, and human services planning and policy, which can strengthen communities' ability to safely navigate the unexpected and recover.

Robert Bullard and Beverly Wright, *The Wrong Complexion for Protection: How the Government Response to Disaster Endangers African American Communities* (New York, NY and London, UK: New York University Press, 2012).

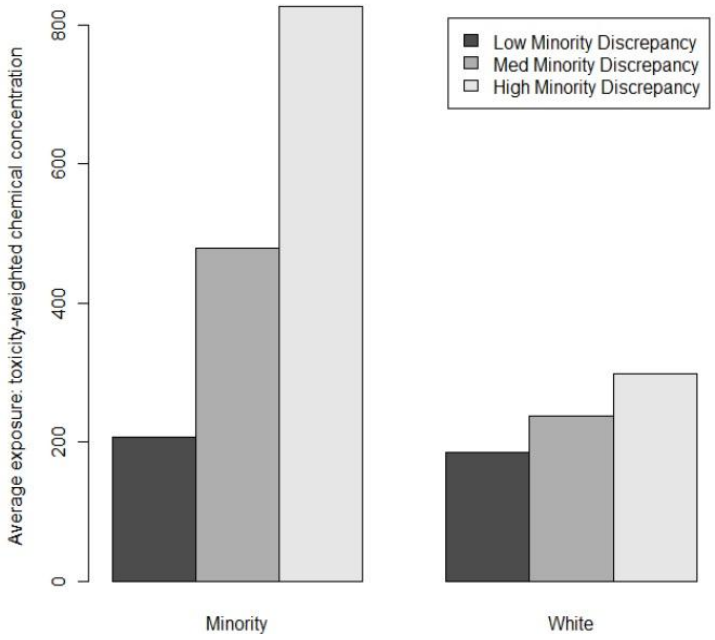
Manuel Pastor, et al., *In the Wake of the Storm: Environment, Disaster, and Race after Katrina* (New York, NY: Russell Sage Foundation, 2006).

What Does Environmental Justice Have to Do with Creating Sustainable Regions?

Unequal access to environmental amenities and disproportionate exposure to environmental disamenities is a problem in its own right: those involved in city and regional planning are generally committed to principles of equal opportunity, and the idea that the environment, a seemingly ubiquitous natural asset, is unevenly enjoyed offends our basic notion of fairness. Why, however, should those who are worried about "sustainable regions" put the imperatives of environmental justice at the forefront? To see the answer, we need to consider both the relationship between EJ and sustainability and the rationale for addressing this question regionally.

On the sustainability grounds, there is a short and powerful answer: EJ is good for everyone. In 2010, economists at the University of Massachusetts, Amherst wrote a paper with a provocative title: "Is Environmental Justice Good for White Folks?" The answer was, in fact, "yes."[25] Figure 2 shows that in places (to be specific, Core-Based Statistical Areas, which are proxies for metropolitan areas) where the environmental burden gap between people of color and white people is wider, there is more toxic exposure for whites as well as for people of color. In other words, while EJ has its foundation in different environmental outcomes by race, wherever toxic exposure is worse for some, it is worse for all. Thus, according to the authors, "efforts to reduce these disparities could lead to environmental improvements that benefit all Americans."[26]

Figure 2. Average Exposure by Race/Ethnicity in CBSAs with Low, Medium, and High Minority Discrepancy Scores



Source: Michael Ash et al., *Is Environmental Justice Good for White Folks?,* 25.

Other researchers have also shown that addressing inequality, particularly in terms of income, helps improve environmental sustainability overall. Mikkelson et al. and Holland et al. found that income inequality is associated with a loss of biodiversity while Torras and Boyce find that nations with a greater commitment to societal equality have stricter environmental regulations, resulting in lower emissions of some pollutants.[27] In a 1999 study, Boyce et al. also found that a greater level of power inequality within states leads to weaker environmental regulations, resulting in greater environmental degradation and the adverse health conditions that come with it.[28] Another supportive study finds that greater levels of public participation lead to greater land protection.[29]

The upshot from all these studies is that working toward equality—particularly, reducing disparities in exposure, closing the income gap and leveling the political playing field—can lead to healthier environments for everyone. In that sense, EJ and environmental sustainability are inextricably linked.

So why tackle all this at a regional level? While reversing environmental injustices is indeed necessary at the local level (via city planning agencies) and national level (via the U.S. EPA), research and action is particularly necessary at the regional level (via metropolitan planning organizations and air quality management districts) for several reasons.

The first reason is that in fact environmental inequality is a regionally-specific affair. After all, each region has its own set of industries and pollution problems—and it is at that level that inequality is most apparent. Indeed, a 2002 study by Ash and Fetter looks at the distribution of toxic releases by race and region and suggests that national-level analysis might "wash out" racial effects within regions. For example, they find that Latinos tend to live in less polluted metropolitan regions, but live in more polluted areas within those regions. A purely national approach misses this type of racial disparity within regions and hence understates the problem.[30]

Another reason for addressing EJ at the regional level is that the transportation and land use issues we describe above are systems that are regional in scale. While local action is imperative to providing services to neighborhoods and national programs set the stage for action, regional players that coordinate transportation and land use systems are most directly involved in creating sustainable regions.

Communities of Color Are Environmental Allies

Perhaps because of the myriad environmental injustices facing communities of color, evidence shows that people of color are more likely to be concerned about environmental issues than non-Hispanic whites. In a 2010 *Los Angeles Times* and University of Southern California poll of Californians, Latinos and Asian Americans were significantly more concerned about global warming, air pollution, and water/soil contamination than non-Hispanic white respondents. So, regional and local planners looking for environmental allies would be wise to collaborate with communities of color in creating policies that promote sustainability. (Note that the sample size of African Americans was too small to be statistically reliable in this study).

Tabulations by the University of Southern California's Center for the Study of Immigrant Integration of the 2010 University of Southern California/*Los Angeles Times* poll data. For more, see: "A Changing California Electorate: Lessons from the USC College/L.A. Times Poll," Center for the Study of Immigrant Integration, http://csii.usc.edu/events_la_times_poll.html (accessed July 25, 2012).

Here, we must note that while air basins and transportation networks are indeed regional, we know that inequality concentrates in neighborhoods—particularly in low-income communities of color. In order for regions to equitably distribute burdens and benefits and achieve environmental sustainability, they must target those neighborhoods disproportionately burdened. As we allude to above, those involved in local and regional sustainability planning would do well to work together to help lift the environmental burden off of the most vulnerable communities.

Where to Start?

Of course, the EJ imperative is not new to local and regional planning: *E.O. #12898* mandates that agencies must consider EJ when using federal money—which often plays a large role in land use and transportation projects. To comply with the Executive Order, agencies have developed statues that address environmental inequities in communities. At a minimum, for example, the Federal Highway Administration requires an analysis of projects to determine whether benefits and burdens are proportionately distributed.[31]

But the practical and legal limitations of these provisions have made it difficult for planning agencies to develop uniform practices to address the unequal distribution of burdens and benefits across communities and regions.[32] Currently, no standard measure exists to determine the proportionality of benefits and burdens for practitioners. This makes sense given the intricate and complex web of federal, regional, and local regulatory agencies, which monitor environmental pollution and govern new and existing projects. However, regional agencies and planning authorities have a unique opportunity to develop metrics and methods that can help address EJ issues.

But where to start? While tackling EJ will take intentional and strategic efforts over the long term, we think there are three big areas of work emerging now that are particularly suited to those involved in the Sustainable Communities Initiative. The rest of this brief will cover: 1) how to measure EJ, 2) how to move forward with community input, and 3) how to combine concerns about justice and a focus on participation in the next important wave of planning for climate change.

Measuring Cumulative Impacts and Screening for Health

Measuring the impact of environmental hazards, as many are trying to do, is often the first step in successfully incorporating environmental justice into local and regional planning processes. In fact, under *E.O. #12898*, agencies using federal resources are required to identify disproportionately adverse health and environmental effects of program, policies, and actions on people of color—and 23 states have responded by developing a variety of EJ assessment methods, ranging from qualitative analyses to simple demographic indicators to complex quantitative analyses.[33] However, environmental justice issues are complex and wide-ranging (from air pollution to transportation and housing access) and it can be difficult to piece together the data in a way that provides a meaningful picture of overall environmental equity in a region.

Partly as a result of this challenge, one of the newest areas of work in the EJ field involves the development of cumulative impacts (CI) screening methods, which score areas based upon a multiplicity of factors. In general, these methods try to account for multiple exposures in a geographic area from combined emissions and discharges, from all sources, whether single or multi-media, as well as social and biological factors that may enhance community susceptibility to the toxic effects of pollutants.[34] Such methods can be used by local and regional planners to help identify the most adversely impacted and socially vulnerable communities and make the kinds of changes that bring measurable improvements in daily lives.

The number of CI screening methods has proliferated during the past decade, and so too has the number of online EJ-related measurement tools, which can be both sophisticated and easy-to-use. In this section we profile one such approach in detail, mostly to illustrate the logic of these tools. We then offer a list of alternatives that might be more apt for certain locations and may be easier to implement.

The Environmental Justice Screening Method

The Environmental Justice Screening Method (EJSM) was developed by researchers at the University of Southern California, University of California, Berkeley, and Occidental College under a contract from the California Air Resources Board (CARB). It is a method within the family of CI screening tools that offers a simple, flexible, and transparent way to examine the relative rank of cumulative impacts within metropolitan regions and determine priority EJ neighborhoods. The EJSM has been both peer-reviewed and undergone extensive presentation to community organizations interested in environmental and EJ issues.

The EJSM derives a CI score based on 29 indicators that are organized into three categories: (1) hazard proximity and land use; (2) air pollution exposure and estimated health risk; and (3) social and health vulnerability (see Figure 3).[35]

Figure 3. Cumulative Impact Indicators by Category

1: HAZARD PROXIMITY AND LAND USE SCORE

Sensitive Land Uses

Childcare facilities
Health-care facilities
Schools
Senior housing facilities
Urban playgrounds

Hazardous Facilities

AB 2588 "Hot Spots" stationary source facilities
Chrome plating
Hazardous waste sites

Hazardous Land Uses

Railroad facilities
Ports
Airports
Traffic volume
Refineries
Intermodal distribution

Cumulative Impact Score =
Hazard Proximity and Land Use Score (1-5) +
Health Risk and Exposure Score (1-5) +
Social and Health Vulnerability Score (1-5)

2: HEALTH RISK AND EXPOSURE SCORE

Risk Screening Environmental Indicators (RSEI) toxic concentration
National Air Toxics Assessment (NATA) cumulative respiratory hazard
NATA estimated cumulative cancer risk
$PM_{2.5}$ estimated concentration
Ozone estimated concentration

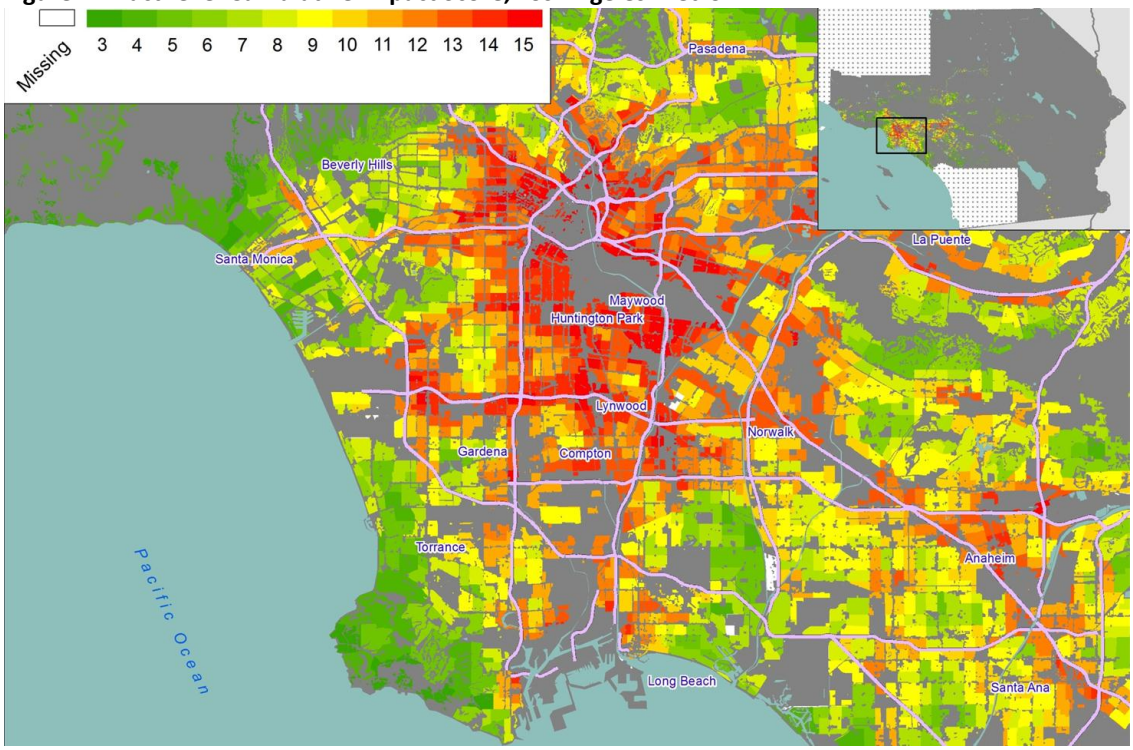
3: SOCIAL AND HEALTH VULNERABILITY SCORE

Race/ethnicity - percent people of color (total population that is not non-Hispanic white)
Poverty - percent below twice the Federal Poverty Level
Homeownership - percent living in rented households
Housing value - median house value
Educational attainment - percent > age 24 with < high school
Age of residents - percent < age 5
Age of residents - percent ≥ age 60
Linguistic isolation - percent residents ≥ age 5 in households where no one ≥ 15 speaks English well
Voter turnout - percent votes cast in general election
Birth outcomes - percent preterm and small for gestational age

Source: Sadd et al., "Playing It Safe: Assessing Cumulative Impact and Social Vulnerability through an Environmental Justice Screening Method in the South Coast Air Basin, California," 1444-1445. Analysis updated to reflect the most recent data for all indicators.

The EJSM assigns a total CI score, ranging from three to 15, to each census tract, which is the sum of each tract's individual indicator category scores. As seen in the map below (Figure 4), higher scores (represented in reds and oranges) reflect more highly burdened areas, while lower scores (represented by greens and yellows) correspond to healthier areas.

Figure 4. Tract-level Cumulative Impact Score, Los Angeles Metro



Source: Sadd et al., "Playing It Safe: Assessing Cumulative Impact and Social Vulnerability through an Environmental Justice Screening Method in the South Coast Air Basin, California," 1453. Analysis updated to reflect the most recent data for all indicators.

To calculate a score for the *hazard proximity and land use* category—perhaps the most methodologically complex of the group—the researchers first generate a census tract-level hazard estimate that takes into account the distance from various hazards, the underlying population (and its distribution within the tract), and land use (specifically, whether the tract includes "sensitive uses," such as childcare and health-care facilities, schools, and urban playgrounds). Areas farther from hazards receive a lower score, and the score also varies depending on the proximity of population and hazards *within* the tract. Tracts containing sensitive land uses have an additional point added to their hazard proximity count. The resulting scores are then ranked into quintiles from one to five.

Scores for the remaining categories (*health risk and exposure* and *social and health vulnerability*) are more straightforward. Each tract in the region is ranked by indicator into quintiles (one to five), then within categories, the indicator scores for each tract are summed up, and the sum is once again ranked into quintiles (one to five) for all tracts in the region. This results in a one to five score for each category. The total CI score (which ranges from three to fifteen) is simply the sum of the categorical scores.

There are a few aspects of the EJSM which are worth stressing. First, it does its ranking *within* regions, partly because of the regional nature of exposures noted earlier. Second, it uses a complex notion of social vulnerability;

the use of less indicators in that category can result in errors (such as identifying neighborhoods with university dorms as highly vulnerable due to the temporarily low income of students when only poverty is considered in the ranking). Finally, the EJSM is considered a scientifically reliable and rigorous method, and its development included community involvement in the form of community review and parallel "ground truthing" efforts (for more on "ground truthing," see the "Moving Forward with Community Input" section below). Partly because of this, the scoring method places a premium on simplicity.

Other Tools for Tracking Impacts

While the EJSM provides a comprehensive, transparent, and simple measure of CI, it is not available outside of California (yet!). Moreover, it relies on reasonably precise and well-classified land use data, information that is not uniformly available in all regions in the country (but should be)—or even within California where it was created.[36]

Partly as a result, other CI screening methods have emerged in California and the nation. One of the most prominent in the Golden State is the California EPA's (Cal/EPA) Cumulative Impacts Screening Methodology, which was designed to help Cal/EPA consider CI when developing programs and policies. Developed by scientists at the state's Office of Environmental Health Hazard Assessment, it also takes into consideration environmental hazards as well as social and health vulnerability factors, but eschews the more complicated land use calculations.[37] Its ranking procedure goes across the whole state rather than taking the regional approach of the EJSM.

It is not surprising that California has led the way in the development of these tools: the state is generally ahead of the curve on environmental issues, and it has also been at the forefront of legislation and administrative action with regard to EJ. However, there are a number of other efforts, including the U.S. EPA's Environmental Justice Strategic Enforcement Assessment Tool (EJSEAT), an approach that includes a number of the indicators noted above, but also contains information on compliance. EJSEAT is soon to be replaced by a new nationally consistent EJ screening tool, built in part on a new GeoPlatform with data that is part of the U.S. EPA's Plan EJ 2014.[38]

In the interim, there are a number of online EJ-related tools that map multiple neighborhood-level environmental, health, and demographic indicators, allowing users to visualize community environmental stressors. Most sites are fairly easy to navigate and provide ready-to-use data and maps, which those involved in local and regional planning can use to define, delineate, and profile communities with EJ concerns.

Figure 5 shows a list of these online tools, including some that are not explicitly EJ-oriented, and do not capture cumulative impacts. Nonetheless, these tools provide data that can be useful for EJ advocates and planners. The majority of the tools below are government-generated, most coming from the U.S. EPA, which hosts an Office of Environmental Justice that provides information, guidance, and data to federal, state, regional, and local agencies in order to assist them in meeting EJ principles and goals. There are several proprietary tools which offer great data as well, but at a cost, and they are not profiled here. Given that these tools provide data that is often non-overlapping, we recommend using data from several sites to paint a fuller picture of communities.

Figure 5. Other Environmental Justice, Climate Change, and Health-Related Tools

ENVIRONMENTAL HEALTH TOOLS	
EJView	EJView is a mapping tool hosted by the U.S. EPA that allows users to create maps and generate reports which examine multiple variables that may affect human and environmental health within a community or region. Users can search by address, area, or EPA facility. Key data: Institutions, EPA reporting sites, health service areas, health risk/demographic, natural boundaries/water features
NEPAssist	NEPAssist is a mapping tool that supports the environmental impact review (EIR) process and project planning in relation to environmental considerations. Users can search by address, area, geographic coordinates, watershed, or congressional district. Key data: Institutions, EPA reporting sites, health service areas, health risk/demographic, natural boundaries/water features, transportation, soil maps, FEMA flood warning areas, topography maps
National-Scale Air Toxics Assessment (NATA) dataset and mapping tool	NATA is a dataset compiled by the U.S. EPA that provides broad estimates of health risks arising from breathing air toxics emitted from a variety of sources. The EPA also provides interactive Google Earth maps so users can view the distribution of risks in specific geographic areas. Key data: Stationary, mobile, background, and secondary formation air toxics
National Environmental Public Health Tracking Program	The National Environmental Public Health Tracking Program is a tool of the Center for Disease Control and Prevention and provides information on environmental hazards, exposures, and chronic health conditions. This tool allows users to select by environmental risks/health conditions, demographics and geography, and displays data through mapping, charts, and tables. It also allows users to examine trends over time. Key data: Health, air quality, climate change, demographic
EnviroMapper for Envirofacts	EnviroMapper is a mapping tool which draws from several EPA data sources to display the location of activities that may affect water, air, and land anywhere in the U.S., from the neighborhood to national level. Key data: Data from facilities required to report activity to a state or federal system
Community-Focused Exposure and Risk Screening Tool (C-FERST)	Although this tool is not yet available, it will soon operate as a one-stop-shop community mapping and assessment tool for understanding cumulative risks.

Figure 5. Other Environmental Justice, Climate Change, and Health-Related Tools (Continued)

PUBLIC HEALTH TOOLS	
HealthLandscape	HealthLandscape is a web-based mapping tool that allows users to analyze and display demographic and health-related information at a variety of geographic levels. The tool draws from multiple socio-economic and health data sources. Key data: Health-care facilities, health status/risks, demographic
Health Professional Shortage Areas - Medically Underserved Areas/Populations	The U.S. Department of Health and Human Services developed this tool to allow users to identify areas that have a shortage of health professionals and/or are considered medically underserved. Key data: Health professional shortage areas, medically underserved areas and populations
CLIMATE CHANGE AND DISASTER PLANNING TOOLS	
OnTheMap for Emergency Management	This tool is operated by the U.S. Census Bureau and maps current natural hazard and emergency-related events, with available geographies ranging from the city to national level. Key data: Natural disaster
Sea-Level Rise Maps	This tool is run by the Pacific Institute and allows users to map flood warning, wetland, and coastal erosion zones and layer atop the locations of at-risk infrastructure. Key data: Hazard zones, at-risk infrastructure

Moving Forward with Meaningful and Sustained Community Input

With the right metrics in place—ones that consider cumulative impacts and measures of vulnerability—those involved in sustainability planning can cover much ground. However, EJ is as much a process as it is an outcome; EJ means including not just the right data, but the right input.

While local and regional planning agencies have developed varying methods for addressing EJ concerns, community input can and should span all planning and policymaking. In particular, the intentional involvement of traditionally underrepresented communities—especially low-income people of color—is key to addressing local EJ concerns. Not only do these communities benefit from inclusion in planning processes, but on-the-ground knowledge can help those making planning and policy decisions in identifying activities of polluters and potential hidden hazards that they may not even realize exist.[39]

Traditional means of community engagement, such as public meetings and workshops, certainly have some merits, such as providing a platform for residents to voice concerns about regional plans or particular projects. Overall, however, low-income communities of color too often lack authentic ways to wholly address environmental injustices and find themselves on the outskirts of final decision-making processes that affect their neighborhoods and health. EJ communities generally have less power than developers and industrial polluters—which is, in fact, a contributor to disproportionate burden because voice in the siting process is associated with a reduction in the proximity of toxic sources.[40] Partly as a result of the long history of the uneven distribution of the benefits and burdens of plans and projects, there can be strained relationships between low-income communities and planners that can make formal outreach processes, such as federally-mandated public meetings that take place late in the planning process, seem suspect.

Meaningful engagement, on the other hand, has the potential to empower these communities, de-concentrate burden, and build trust between planners and communities—all of which form the basis for more equitable and sustainable regions. Transforming community engagement processes from formal and unproductively conflictual to authentic and collaborative will come through grassroots empowerment mechanisms and community organizing, but all participants in the Sustainable Cities Initiative can help.

Promoting "Authentic" Community Participation

In a recent paper written for the U.S. EPA, community-engaged researchers Freudenberg, Pastor, and Israel consolidated academic literature and their decades of collective experience into a set of recommendations for government agencies to create authentic participation: get people involved early, provide them with resources so they can fully participate, and ensure that outcomes reflect participation and local needs.[41]

Early involvement signals to communities that their input will be taken seriously. Such involvement could include using one of the screening methods discussed above to identify the most burdened and vulnerable communities and focus outreach efforts within these communities. To address distrust that may exist between communities and government agencies, planners should make an intentional and strategic effort to build trust, which requires in-house training of agency leaders (as well as capacity building on the part of community groups, a side of the equation discussed below). Planners would do well to create effective mechanisms to listen to community concerns and develop culturally appropriate outreach methods, such as hiring planners who speak the same language as community members, producing materials in multiple languages, and developing innovative and interactive workshops drawing on ideas and desires of local residents.[42]

SCI grantees could also partner with EJ and/or community-based organizations early on, which already have relationships and trust with residents.[43] Because regional planners simply do not have the capacity to conduct as many one-on-one meetings as those working on focused corridors, this strategy is particularly useful for regional planners who need points of contact that span neighborhoods. Formal and funded partnerships tend to work best; for many such groups, it is impossible to take on new or expanded work without funding.

A second key step to achieving authentic community participation is providing communities with resources to fully participate. This not only includes making government resources available and easily accessible, but supporting EJ organizations with resources to build capacity in communities. Including communities in the co-production of knowledge is another facet of full participation that moves beyond the requisite public comment period of traditional planning processes.[44]

Finally, to achieve EJ, SCI grantees must ensure that policy and development outcomes reflect community participation. To do this, community participation should be sustained throughout the entire planning process, rather than through a public meeting after most of the decision-making has already occurred. Agencies should also evaluate participation by hiring independent evaluators and creating clear measures and benchmarks. Ongoing community feedback on plans and processes will make sure that outcomes reflect local needs and reverse the environmental injustices facing residents.[45]

Of course, this is all easier said than done—especially for regional planners whose jurisdictions often include hundreds of thousands, if not millions, of people. While local planning processes, such as those related to community area and commercial corridor plan development, can more easily accommodate the intimate meetings that are necessary for engaging residents and building trust, those involved in regional planning and decision making may not have the same capacity due to the sheer number of constituents and scale of concerns. The good news is that examples of regional planning efforts integrating local voices into policy are starting to emerge. In particular, working with a large number of diverse players and connecting residents facing similar challenges across geographies is proving to be an effective method of lifting local issues to the regional decision-making scale.

For example, THE (Trade, Health, Environment) Impact Project, a community-academic partnership based in Southern California working to reduce the health and community impacts of international trade, has held two conferences with the purpose of building a network of local residents from across the globe who face similar environmental injustices. Specifically, in October 2010, THE Impact Project gathered

Ground Truthing for Good Will

As a means of incorporating community knowledge into research, the Environmental Justice Collaborative in Southern California has used the community-based participatory research method of "ground truthing," which is the "direct engagement of community members in data collection" that "ensures that rigorous analysis is directly linked to policy outcomes and regulatory actions." This method uses the knowledge of community residents—observations of the day-to-day activities of established facilities and new hidden hazards that are not recorded in government databases—to paint a fuller picture of the burden. Ground truthing also allows researchers to gather data about the proximity of toxic emitters to "sensitive receptors"—like day care centers, churches, and places where the elderly gather.

In the case of the ground truthing project in Southern California, residents from six communities within Los Angeles County collaborated with research and agency staff to check regulatory databases and emissions inventories against the facts on the ground. Some of their reflections on this data compilation and ground truthing are that:

- There are more hazardous facilities and sensitive receptors than exist in regulatory databases;
- Numerous sensitive receptors are located too close—as specified by CARB—to hazardous facilities;
- Locational errors of polluting sources often occur; and
- Air pollution levels exceed safe standards recommended by the State of California.

In this case, ground truthing not only ensured that researchers and planners accounted for the cumulative impacts of toxic facilities through local knowledge, but also helped build trust between agency officials, researchers, and community members—a key ingredient to engaging communities in meaningful ways and translating their needs into both local and regional policy.

This information comes directly from: The Los Angeles Collaborative for Environmental Health and Justice, *Hidden Hazards: A Call to Action for Healthy, Livable Communities*, (Los Angeles CA: Liberty Hill Foundation, 2010). For more information, download *Hidden Hazards* here: http://dornsife.usc.edu/pere/documents/hidden-hazards-low-res-version.pdf

over 600 people from 18 states and five countries so people could share their on-the-ground experiences, connect with others facing similar hardships, and together build a national and global strategy to lessen the harmful health impacts of freight transport and goods movement in their communities.[46]

And some MPOs are no strangers to this field of innovative community participation. The Sacramento Council of Governments (SACOG) involved thousands of its residents in its regional "Blueprint" planning process; while not enough attention was initially given to issues of economic or environmental equity, SACOG explicitly lifted up equity concerns in 2010, on the fifth anniversary of the Blueprint, prodded in part by a community-based coalition called the Coalition for Regional Equity (CORE). The latter points to the need to consider the balance between internal intentions and external pressures—outsider and insider efforts can go together.[47]

For a much more detailed exploration of community engagement in planning and policymaking, see "The Community Engagement Guide for Sustainable Communities" produced by PolicyLink and Kirwan Institute for SCI consortium members.

Translating Equity Metrics and Community Input into Policy

One of the goals of developing metrics and engaging communities is to create policies that are rooted in community need, supported by scientific evidence, advance environmental equity, and restore the health of neighborhoods. The process of securing a policy or planning victory—from metrics creation to gathering community input and policy development—is often iterative, non-linear, and requires sustained collaboration. But seeing something happen helps convince community participants that, well, something is happening.

EJ policy outcomes span a range of areas, from increasing funds for clean buses to mandating affordable housing set-asides to cleaning up toxic waste. In the realm of land use planning, for instance, an arena familiar to both regional and local planners, agencies could enact conditional use standards that restrict uses associated with EJ concerns, or consider placing buffer zones between communities and toxic land uses. Imposing exactions and impact fees on developers can help fund mitigations for low-income communities and communities of color. One innovative method, pioneered by an EJ organization and implemented by a city, has phased out polluting industries through an amortization ordinance (see "Phasing out Polluters in National City").

That is all "after the fact." What may build public trust even more are actions that are clearly preventative. For example, zoning ordinances and conditional use permits can regulate the siting of problematic land uses in low-income neighborhoods and neighborhoods of color. Some

Phasing Out Polluters in National City

National City has one of the highest asthma rates in San Diego County, which many attribute to the proximity of industrial facilities to homes, churches, and schools. This pattern is most noticeable in the western side of the city, known as Old Town, which is home to 222 polluters per square mile (compared with the county average of 17 per square mile). Restoring polluted residential neighborhoods to health requires polluters adjacent to homes and schools either relocate or clean up. A local EJ group, the Environmental Health Coalition (EHC), has pursued several tactics to address the issue of existing pollution in the city. In 2004, due in part to EHC's efforts, the City Council rezoned the area to reduce incompatibilities, and two years later adopted an amortization ordinance to provide for the removal of businesses that do not conform with new zoning codes (once each business' investment has been recovered or amortized). The ordinance sets up a process for the relocation of prioritized industries once the amortization period is triggered. Although the process of prioritizing industry relocation is challenging, advocates and planners have moved forward, seeing, as their ultimate goal, not only a community with no new pollution, but one which is restored.

Katherin Poythress, "City Tackles How to Eliminate Polluters," *San Diego Union -Tribune,* August 3, 2012, http://www.utsandiego.com/news/2012/aug/02/tp-city-tackles-how-to-eliminate-polluters/.

"Media Center: News," Environmental Health Coalition, http://www.environmentalhealth.org/index.php/en/media-center/news/244-city-tackles-how-to-eliminate-polluters (accessed August 18, 2012).

municipalities have also created overlay EJ zones that cover predominantly low-income neighborhoods of color. Some have also used performance standards to limit environmental impacts, requiring cleaner and safer operating practices of new and expanded industrial uses.[48]

Planning for Climate Change and Environmental Justice

Of course, some of the most preventative or forward-looking planning taking place at a *regional level* are efforts to reduce greenhouse gas emissions and slow climate change. With climate planning moving up on the regional planning agenda, there are many reasons to make sure that EJ concerns are central to climate-related efforts.

For one thing, while climate change matters for everybody, evidence suggests that it will deeply impact vulnerable communities. A 2009 report called *The Climate Gap: Inequalities and How Climate Change Hurts America and How to Close the Gap* demonstrates that these communities will suffer more extreme weather events, breathe dirtier air, pay more for basic necessities, and have fewer or shifting job opportunities with the onset of climate change.[49] And while addressing climate change could therefore serve the imperative of EJ (and sustainability), there are also risks that certain policy choices could actually worsen rather than diminish disparities.

Cities Taking the Lead on Climate Change—and Justice

In the absence of federal action on climate change, several cities have taken the lead on advancing plans to address climate change and, also, confront environmental injustice. New York, Los Angeles, and Chicago are among the cities setting greenhouse gas reduction goals, and by doing so, lifting up the importance of regions in the global climate change debate.

Originally released in 2007, New York's *PlanNYC* lays out a roadmap for a sustainable urban future within the region, outlining strategies for accommodating population growth, strengthening the economy, combating climate change, and enhancing the quality of life. It seeks to reduce GHG emissions through a combination of approaches, including: increased emissions tracking, a better assessment of vulnerabilities and risks, strengthening the built and natural environment, protecting the public health, ramping up emergency preparedness efforts, and creating resilience among communities through public campaigns and outreach.

Around the same time, Los Angeles released its climate action plan, *GreenLA: An Action Plan to Lead the Nation in Fighting Global Warming*, and soon after, *ClimateLA,* the framework for implementing the plan. The documents detail goals and strategies for increasing renewable energy usage, greening the economy, and transportation, as well as addressing land use planning issues, with a focus on creating walkable, transit-accessible, affordable and park-rich communities.

In the Midwest, Mayor Daley, known for his greening of Chicago's rooftops, unveiled the *Chicago Climate Action Plan*, which outlined five strategies for creating a greener and more resilient city—among them, the reduction of industrial waste and pollution. In 2012, the City announced the retirement of the Fisk and Crawford coal power plants—a victory for local EJ advocates, many of whom resided nearby the plants and campaigned for their closure.

The City of Chicago—Mayor Richard M. Daley, *Chicago Climate Action Plan* (Chicago, IL: The City of Chicago, 2008), http://www.chicagoclimateaction.org/filebin/pdf/finalreport/CCAPREPORTFINALv2.pdf.
"Chicago Climate Justice Homepage," Chicago Climate Justice, http://www.chicagocleanpower.org/ (accessed July 25, 2012);
The City of Los Angeles—Mayor Antonio R. Villaraigosa, *Executive Summary, ClimateLA: Municipal Program Implementing the GreenLA Climate Action Plan* (Los Angeles, CA: The City of Los Angeles, 2008), http://www.environmentla.org/pdf/ClimateLA_v5.pdf;
The City of Los Angeles—Mayor Antonio R. Villaraigosa, *GreenLA: An Action Plan to Lead the Nation in Fighting Global Warming* (Los Angeles, CA: The City of Los Angeles, 2007), http://www.environmentla.org/pdf/GreenLA_CAP_2007.pdf;
The City of New York—Mayor Michael R. Bloomberg, *PlaNYC: A Greener, Greater New York—Update April 2011* (New York, NY: The City of New York, 2011), http://www.nyc.gov/html/planyc2030/html/theplan/the-plan.shtml.

For example, while decreasing GHG emissions has the potential to decrease co-pollutant burdens and improve public health, certain regulatory schemes, like cap-and-trade, run the risk of further concentrating the burden of co-pollutants like particulate matter (PM), sulfur dioxide, and volatile organic compounds. So governments cannot assume that all climate change strategies are health- and equity-promoting and may need to consider supplemental strategies such as surcharges to force reductions in highly impacted areas and "Community Benefits Funds" to support neighborhoods that disproportionately bear the climate change burden.[50]

Climate Planning for Metro Regions

Regional planning for climate change likewise has its benefits and risks. Efforts to tackle climate change will include a host of strategies related to economic development, housing, transportation, and the environment. Common to many of these efforts is the imperative to promote more compact development, or "smart growth." As smart as such growth may be, it can also lead to the concentration of roadway pollutants near transit-oriented development and an acceleration of housing prices in central cities that can lead to displacement. Both of these are justice concerns that those involved in regional planning could seek to address through pollution mitigation and programs that emphasize affordable housing and good jobs creation that allow residents to thrive—in place. The approach could help achieve regional sustainability goals and environmental justice for existing residents.

While regional and local governments are struggling to move forward with climate change plans, community-based organizations are spearheading action by piloting projects that make a difference (see Figure 6). Many of these organizations began their actions around EJ, but are making practical steps towards climate change mitigation and/or adaptation. And along the way, they are also contributing towards regional economic and environmental sustainability.[51] As we recommend above, therefore, planning agencies aiming for sustainability—particularly regional planners—would do well to partner with organizations doing the work of climate justice through consultation, funding and/or other resource allocation.

Figure 6. Examples of Climate Justice Efforts Improving Sustainability

	Environmental Justice Issue	Climate Justice Issue	Response	Strengthening Sustainability
Urban Releaf (Oakland)	Lack of green space in low-income areas	Urban heat Islands	Hard-to-employ workers planting trees in urban areas	Increased green space and shade, increased resident employment
Bus Riders' Union (Los Angeles)	Pollution from old, dirty buses and private auto use; lack of quality, clean bus service to low-income riders	Increased GHGs from private auto use	Improved bus service and availability for the most low-income	Increased bus service for all, provided drivers with more transit options
Coalition Clean and Safe Ports (Ports around the Nation)	High environmental health burdens around the low-income port communities	High emissions in low-income communities (usually of color) around the ports	Connected independent contractor truck drivers to employers, and in turn, cleaned-up the trucks	Decreased dirty diesel emissions, improved air quality, improved worker conditions

Source: Ellen Kersten et al., *Facing the Climate Gap: How Environmental Justice Communities are Leading the Way to a More Sustainable and Equitable California* (Los Angeles, CA and Berkeley, CA: University of Southern California, Program for Environmental and Regional Equity and University of California, Berkeley, Department of Environmental Science, Policy and Management, College of Natural Resources, forthcoming 2012).

However, given the task at hand, planners, and regional agencies in particular, should make no small plans. To integrate equity within a regional climate change planning framework (which is already burdened by a sense of global inertia), it is critical to knit together the work of several local groups to build a climate justice-focused

coalition. One example of such integration is (again) from California, which is leading the charge in terms of climate planning at the state and regional levels. In 2008, California passed its unprecedented smart growth law, Senate Bill 375, which requires regional agencies to plan future housing, job growth, and transportation concurrently, rather than separately, in order to decrease driving and thereby reduce greenhouse gas emissions statewide.[52] This is a big and important experiment in sustainability planning being looked at by researchers and policy makers across the country.

Lifting Up Equity

With SB 375 on the agenda, a range of grassroots organizations from across the state have decided to get involved. For example, in the San Francisco Bay Area, more than 30 social justice, faith, public health, transit equity, affordable housing, and environmental justice organizations have come together to form the 6 Wins for Social Equity Network to ensure the incorporation of equity issues into climate planning. This strategic collaborative of diverse allies aims to shape and impact how regional planning decisions will affect the health and well-being of working families now and in years to come.[53]

Specifically, the Network's 6 wins include: affordable housing near jobs, transit, parks, schools, and transit; a robust transit network connecting people to opportunities; investment without displacement of low-income communities of color; healthy communities with clean air and water; economic opportunities through green and transit-related jobs, and; community power to affect change at the regional level.[54]

To achieve these wins, member organizations have advocated before the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG)—the two regional planning agencies responsible for implementing SB 375 in the Bay Area region—to bring an equity lens both to the process by which the regional plan is developed, and the substantive outcomes of that process. They are elevating the voices in the communities to ensure that they are at the decision-making table and connecting grassroots groups with elected officials in order to make a difference. [55]

And recently, this strategy of incorporating diverse grassroots players into the climate planning process has paid off. MTC agreed to include an equity analysis, along with its other metrics, at the beginning of its planning processes—a critical step toward building a more equitable and sustainable region, and an outcome which was the result of the 6 Wins Network's collective efforts.[56]

Conclusion

The field of environmental justice crosses many sectors, and planning agencies have the opportunity to incorporate it into processes and policies as a means of strengthening existing sustainability efforts. While we acknowledge that EJ cuts across issues of transportation, housing, and employment, across media of air, water, and soil, and across federal, state, and local policymaking, we have focused here on just a few important elements of how to incorporate EJ into planning for sustainability: generating better data, implementing better participation, and creating better climate planning.

While getting the data right is a key first step, it is just one part of incorporating EJ into planning. The right data needs to be paired with the right community engagement process. Perhaps the most important underlying element is genuinely enabling the community to share in decision making; indeed, it is from community input that the importance of cumulative impacts rose and methodologies were developed in the first place. Building trust between community and agencies will create the type of buy-in needed to implement more ambitious policies and programs in the future.

In some senses, incorporating EJ is like lifting a stack of books from the bottom, rather than half-way down. It may take more effort and requires a longer reach, but results in a better use of resources. Rather than ongoing replacement of air filters in elementary school HVAC systems, decrease toxic emissions from refineries; rather than everyone buying bottled water, clean up the water table from which the most vulnerable people drink; rather than offer carpool stickers for costly private Priuses, create a better public transit system for all.

As we face our next planning frontier—reworking our metropolitan landscapes to mitigate the problems associated with climate change—it is imperative that we get the right data, involve the right people, and adopt the right attitude. Too often, EJ is an after-thought, something checked off to see whether disparate impacts might result from any particular policy choice. By putting these equity concerns up front, we have the chance to make progress on both EJ and regional sustainability.

Resources

- *History.* In 1991, the First National People of Color Environmental Leadership Summit wrote their Principles of Environmental Justice. Three years later, President Clinton signed *Executive Order 12898*—entitled "*Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations*." The Order validated the work of advocates and enabled a new wave of work around EJ.

- *Current federal framework.* The U.S. EPA's Plan EJ 2014 seeks to protect the environmental and health in overburdened communities, empower communities to take action to improve their health and environment, and establish partnerships with local, state, tribal, and federal governments and organizations to achieve healthy and sustainable communities. The Plan has three major sections: cross-agency focus areas, tool development areas, and program initiatives.

- *Current legislation across the U.S.* The report, Environmental Justice for All: A Fifty State Survey of Legislation, Policies, and Cases, outlines EJ issues and related legislation across the U.S.

- *University research centers focusing on EJ and CJ* include: Environmental Justice Resource Center at Clark Atlanta University; Environmental Justice Research Collaborative at Northeastern University; Political Economy Research Institute at University of Massachusetts, Amherst; Environmental Justice Project at the University of California, Davis; the School of Natural Resources and Environment at the University of Michigan; and the Program for Environmental and Regional Equity at the University of Southern California.

- *EJ metrics and tools.* There is a growing body of research on the measurement of cumulative impacts, as we discussed above, as well as related work on the "Street Science," of combining professional data analysis with community knowledge.

- *Community and advocacy organizations*. Many organizations work for EJ through community organizing, including: The National Black Environmental Justice Network, The Deep Southern Center for Environmental Justice, and the Southwest Network for Environmental and Economic Justice.

    - Environmental Justice and Climate Change Initiative is a network of United States-based EJ, religious, policy, and advocacy groups calling for action on climate change.

- *Tools for regional planners: Best practices in participation.* In the San Francisco Bay Area, community advocates have submitted comments to the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) staff regarding the Public Participation Plan for the adoption of a new Regional Transportation Plan and Sustainable Communities Strategies. The comments include a vision for equitable participation and how to reach it. The coalition has also offered a response to the MTC's equity analysis of the region.

    - Human Impact Partners incorporates health impacts into policymaking and decision making through Health Impact Assessments.

- *Tools for regional planners: Land use and air quality issues.* The Cal/EPA and CARB's 2005 Air Quality and Land Use Handbook: A Community Health Perspective provides detailed information on air quality and land use-related topics, including: sensitive land use siting, incompatible land uses, cumulative air pollution impacts, and tools for integrating air quality concerns into land use processes.

Notes

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[3] For example, see: Robert Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*, 3rd Edition (Boulder, CO: Westview, 2000); Michael Ash et al., *Justice in the Air: Tracking Toxic Pollution from America's Industries and Companies in our States, Cities, and Neighborhoods* (Los Angeles, CA: University of Southern California, Program for Environmental and Regional Equity, 2009).

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