

Chapter 7

Foundations of Community Health: Planning Access to Public Facilities



Kirsten Cook and Beth Ann Fiedler

Abstract While shared use agreement strategies help provide community access to public facilities, the application of this strategy is often an afterthought to community planning and thus, community health. Alternatively, an emerging trend in community health sets an appropriate stage to address community needs by establishing a framework in which various stakeholders build a shared use policy strategy in land use from the onset of development. The application of collaborative community planning as a fundamental component of community health is demonstrated in four case examples from Australia, Canada, and the United States. The qualitative comparative results in the case studies suggest that the partnership framework offers an opportunity to achieve improved community health outcomes. Cumulatively, analysis of a limited number of available shared use performance indicators demonstrates an important need for the development of measurable metrics, reporting, and tracking in which data sharing becomes a necessary element of policy.

7.1 Introduction

The challenge of providing community social services in the United States during and after periods of economic instability is problematic for municipal leaders and across multiple levels of government. Finding innovative methods to optimize existing infrastructure, and develop services, and funding sources to better serve the general health population needs within local communities is important to resolving conditions that decrease quality of life for families experiencing unemployment, obesity, and other environmental conditions that thwart health and optimum lifestyle conditions. Trends, such as the emergence of shared use agreements between parties representing public and private spaces, indicate that educational institutions

K. Cook (✉)
Planner, Partnership for Southern Equity, Atlanta, GA, USA

B. A. Fiedler
Independent Research Analyst, Jacksonville, FL, USA

represent viable community assets to promote social and physical activity. While literature suggests that adjusting current policy by promoting the shared use of space between educational leadership and municipal planning can reduce health disparities and provide a venue for physical activity and social interaction for the entire family towards achieving improvements in community health, quantifying shared use activities for effectiveness poses a difficult problem.

A historical overview and case analysis indicate that shared use strategies have been considered as an afterthought leading to the retroactive approach that is necessary in the instances of existing infrastructure and when no plans for new development have been put into place. The review of this approach sheds light on the general scope and obstacles of shared use for two main reasons: first, the way that community and municipal planning has evolved over the last few decades and, second, the disconnect that exists between municipal and educational leadership. Such strategies, however, fail to realize the full potential that exists within a framework of shared use built into policy by various stakeholders from the onset of development.

The National Clearinghouse for Educational Facilities has promoted the concept of collaborative community development since the turn of the millennium. Their concept of schools as an efficient, innovative, and community-driven solution to the demand for new and renovated school buildings (Bingler et al. 2003) provides common facilities and envelopes shared use in the planning stages to optimize facility usage. In practice, this solution has not received the attention it is due, perhaps because of the lack of quantitative research associated with the practice.

The absence of quantifiable analysis and limited quasi-experimental analysis of social public health interventions in school systems (Bonnell et al. 2013) has made the impact of shared use and other measures (e.g., race, distance to parks, socioeconomic status, chronic conditions) on the reduction of obesity—one facet of poor public health—difficult but not impossible to measure. However, funding resources and/or reallocation could be realized by quantifying the physical and cost benefits in coordinated efforts from shared use as with any proposed change to existing policy or attempt to formulate new policy. Thus, consideration for formal shared use policy in the United States could focus on the quantifiable benefit of reducing the long-term costs of poor public health by using a collaborative process prior to community development that maximizes efficiency, reflects the needs of all stakeholders, and collectively benefits the community.

This chapter highlights the Schools as Centers of Community concept as one that sets the foundation for proactive, rather than retroactive, shared use, delving into the approach as a solution not only to infrastructure needs but also to public health challenges. We focus on the impact of deteriorating infrastructure on public health in the U.S. and the existing barriers to shared use agreement policy, demonstrate how communities in Australia, Canada, and the U.S. embed shared use agreements into local policy, and review how localities can influence greater collaboration, particularly through data sharing. Ultimately, we introduce the need for a framework of agreement in which shared use sites are cooperatively managed from the onset to realize the full advantages of shared use to public health.

7.2 Poor Infrastructure, Poor Health in America?

In 2017, America was given a D+ for infrastructure to represent “significant deterioration” and “serious concern with strong risk of failure” (ASCE 2017, *para* 6) in terms of capacity, condition, funding, operation and maintenance, resilience, and innovation. The assessment, released in an *Infrastructure Report Card* given by the American Society of Civil Engineers (ASCE) every four years, indicates that the current U.S. condition and organization of physical structures such as bridges, roads, public parks, schools, railways, and other infrastructure are unable to satisfy the daily operational needs of the American society. Although the report cards do not focus on the impact to public health, one can easily infer the deleterious influence that a national infrastructure of such inferior quality has on the public. An official reporting system of infrastructure relating to the nation’s physical activity offerings does not exist, but the available reports, in conjunction with data on public health trends, suggest that the current access to infrastructure is insufficient for promoting a positive quality of life and good public health.

The obesity epidemic is a strong indicator of public health outcomes related to a lack of recreational facilities and safe and accessible spaces for physical activity. Obesity is now widely recognized in the U.S. after years of increasing attention and efforts to curb its’ detrimental effects, but the problem is not unique. Between 1980 and 2014, the worldwide prevalence of obesity increased more than twofold. The World Health Organization (WHO) reveals that most of the global population lives in countries where being overweight or obese is linked with more deaths than being underweight (WHO 2016). Obesity impacts 34% of adults and 17% of children and adolescents in the United States, 28% of adults in Australia, and 27% of adults in Canada (NCHS 2016, p.26; WHO 2014) and contributes to the escalating long-term cost of healthcare.

The societal cost of the obesity epidemic is estimated at \$315.8 billion per year in the U.S., in 2010 (\$983 per capita) (Cawley 2015, p.255). Concurrently, the annual medical expenses for an obese American are on average \$2826 higher (in 2005 dollars) than for an American who is not obese (Cawley and Meyerhoefer 2012, p.22). By comparison, other nations have less cost associated with obesity, but the problem is clear. The annual problem of obesity costs Canadians \$6 billion or about \$171 per capita (Canadian Obesity Network 2017), while Australians pay out \$125 billion or \$526 per capita (Wade 2016).

Other diseases and health risks associated with lack of quality locations to promote physical activity include diabetes, high blood pressure, and some forms of cancer. Moreover, mental and emotional health stands to benefit greatly from the availability of recreational facilities and access to spaces for physical activity (HHS 2008). Some of these conditions are included in the healthcare costs related to obesity, considering the interdependent nature of many of them. However, some conditions and the medical attention they require, such as depression and other mental health conditions, represent costs that are additional to that already included in the statistics. In sum, all members of society can benefit from increasing access to

recreational facilities and other spaces for physical activity that is associated with improved health.

The hardest hit communities exhibiting direct environmental conditions (e.g., unemployment, underemployment, obesity) display immediately recognizable demographics such as low income, which further prohibits access to healthy food due to lack of local business development, land use, and other governed conditions. The difficulty in reaching sustainable solutions that embrace communities and multiple levels of leadership requires an influx of methods that elicit the collaboration of various professionals (e.g., clinicians, municipal leaders, state Department of Health, and US Surgeon General) to promote healthy, sustainable community solutions to this international problem. Developing solutions can begin with (1) understanding the seemingly straightforward but often complex nature of existing environmental conditions, (2) historical policy development, and (3) limited coordinated efforts between multilevel government agencies that often seek independent solutions that are incomplete.

One way in which municipal leaders and school board leaders are seeking to address these environmental problems is evidenced by the National Association of State Boards of Education (NASBE) (2013) in the United States. The NASBE lists states that recognize the value of developing shared use agreements so that private community members can gain legal access to gymnasiums, pools, meeting rooms, and similar facilities in public institutions to engage in physical, social, and educational activity that can lead to improvements in health outcomes. Such actions have paved the way for these local community leaders to combine forces to address the high morbidity and mortality costs of obesity, consequent diabetes, and a myriad of other health hazards brought forth by lack of physical activity for children and adults alike.

This strategy has proven successful in communities across the world and is supported by literature and promoted by global leaders. For example, the World Health Organization supports the establishment of partnerships to share existing recreation and sporting facilities between schools and community partners (WHO 2008-School Policy Framework). In the 2016 Report of the Commission on Ending Childhood Obesity, WHO recommends a whole-of-society approach to combating obesity that involves all actors. The report states, “without joint ownership and shared responsibility, well-meaning and cost-effective interventions have limited reach and impact” (WHO 2016, p.26).

Although no solution is absolute, shared use is an effective strategy that can easily be tailored to communities across the globe. Past efforts have demonstrated, however, that shared use that begins at the operations stage will not successfully meet the imminent infrastructural and health needs of the public. A truly effective framework is one that not only relies on shared uses but also shared ownership, responsibility, planning, operations, and management. Historical review and an examination of four case studies in three countries further demonstrate the need for such a framework.

7.3 Historical Perspective of Shared Use Agreements

Public health and planning professionals vocalized their concern at the turn of the twenty-first century to expand their historical roles to combat the spread of infectious diseases in congested cities, citing that “urban planners, engineers, and architects must begin to see that they have a critical role in public health. Similarly, public health professionals need to appreciate that the built environment influences public health as much as vaccines or water quality” (Jackson and Kochtitzky 2002, p.15). An article linking urban sprawl for the first time to physical activity, obesity, and chronic disease (Ewing et al. 2003) opened the door for the resurgence of shared use agreements as a response to the challenge of public health problems rising in communities resulting from a lack of existing infrastructure and limited methods of collaboration in municipal governance strategies. Further, qualitative evidence continues to support that the built environment influences public health in the inherent potential to either encourage or inhibit physical activity (Ewing et al. 2014). Therefore, developing methods to increase collaboration across professional and governance boundaries becomes the new impetus for shared use. Concurrently, the historical beginnings of shared use provide an informative foundation from which to increase awareness, alter current paths, and generate baselines to take corrective action on existing structures as well as a framework for new infrastructure development.

7.3.1 *Increasing Shared Use*

Increasing shared use—the relationship between schools and planning—is among one of many policies and design tools that have been suggested in literature since the 1920s to combat the negative ills of urban form. Thus, open-use policies demonstrate the normative interaction between U.S. schools and communities in the early twentieth century. Efficiency was achieved when communities placed schools in the center of neighborhoods to (1) optimize utilization of publicly funded facilities, and 2) maximize social interaction and physical activity for all ages (Cook 2015; Lawhon 2009). Legislation in Victoria, Australia supporting shared use dates back even further. Victoria’s Education Act, 1872 included the power to use public school facilities for activities outside of formal schooling. This vision was carried out in subsequent acts—Education Act, 1910 and Education Act, 1928 (McShane et al. 2013).

Subsequent decades of land use decisions favoring urban sprawl and greenfield development, however, generally complicated the community use of schools and made such informal agreements difficult to maintain, particularly in the face of liability and safety concerns. Although some communities pioneered the adoption of formal shared use agreements as early as the 1950s, the tools to make them normative have been a much more recent development, emerging well after the turn of the

twenty-first century (SRTS National Partnership 2017). Now, communities across the globe increasingly rely upon shared use policies to address many of the major public health issues they face today.

7.3.2 Shared Use in the United States

Currently, 36 U.S. states (and Washington, D.C.) have laws supporting shared use of school facilities outside of school hours for community recreational use (SRTS National Partnership 2016). A 2016 research brief on shared use found that communities had a higher tendency to address shared use agreements conceptually in plans than through implementation via formal agreements. Furthermore, not all communities specifically addressed shared use via policy with organizations most likely to promote physical activity, such as park districts and recreation leagues. Some partnered instead with community groups that provided benefits besides physical activity, such as libraries and arts organizations.

In 2016, 59% of school districts in the United States had a formal written joint use agreement according to the CDC School Health Policies and Practice Study (2017, p.68). Yet only 48% of districts had a formal written joint use agreement that applies to community use of indoor recreation or sports facilities, 44% had one that applies to outdoor recreation or sports facilities, and less than 14% specified utilization for healthcare services (CDC 2017, p.68). While activity in shared use is growing, the application to physical activity and envelopment of community healthcare continues to lag. Moreover, an important point to note on these study findings is that the percentages only represent district-level policies and practices. While finer than state-level, they may not truly reflect the policies and practices of all individual schools in each district and therefore present the possibility of overestimating the true proliferation of shared use in American schools.

Although the benefits of shared use have thus far proven promising anecdotally in the communities that use it, some impediments still exist to realizing the full potential of shared use to address public health concerns. More broadly, coordinated efforts are needed across the board in decisions relating to schools and land use. Much of the existing state law, however, puts local schools outside the jurisdiction of local land use planning, and local governments rarely collaborate with school districts to determine school siting, building, and renovation that benefits the entire community. Consequently, “a growing chorus of critical voices suggests that current school siting decision-making is inconsistent with efforts to reduce sprawl, encourage compact growth, and increase the sustainability of our built and natural environments” (Miles 2011, p.3). While shared use agreements are certainly a step in the right direction, the crux of the problem goes beyond merely sharing spaces. These problems include the (1) siloed nature of schools and local planning, (2) disconnect between school spaces and community spaces, and (3) lack of holistic involvement in infrastructural planning.

Formal Agreements vs. School Districts that Considered Other Factors Very Influential in Where to Build



Fig. 7.1 Comparing the existence of formal shared use agreements in the United States and the perception of influential factors when deciding where to build a new school facility demonstrates the need for more coordinated efforts in infrastructural planning (Fiedler and Cook 2017)

Thus, solutions that rely entirely on shared use to overcome poor public health will not likely achieve improvement unless reforms are set in place to address the foundational problems noted here. The 2016 School Health Policies and Practices Study found that only 42% of school districts in the United States considered the desire to accommodate community use of the school facility or campus as a very influential factor in deciding to build a new facility rather than renovate an existing one, and only 36% of districts considered this factor as very influential in deciding where to build a new facility (CDC 2017, p.66). Additionally, when deciding where to build a new school facility, 41% of districts did not take into consideration compatibility with the local community growth plan related to future residential development to be a factor (CDC 2017, p.67). Predictably, consultation or input from local government land use or community planning officials is only required in 47% of school districts when determining whether to construct a new school and 45% of districts when determining where to construct a new school (CDC 2017, p.67). Even among school districts with this requirement in place, fewer still considered input from local government officials to be very influential (only 21%) (CDC 2017, p.67). The disconnects shown here suggest that local land use and community planning input is viewed as more of a formality in some school districts than a useful part of the process (Fig. 7.1).

The initial need for more coordinated efforts across the board in all decision-making around school facilities is founded in recent studies in Canada and Australia. These studies support a proposition that long-term public health gains can be achieved in the establishment of a community framework of shared use agreement in which shared use sites are cooperatively planned and managed from the onset. For example, a Canadian Active After School Partnership survey that garnered 364 responses from municipal and school sectors determined that lack of communication

between partners is cited by 52% as the greatest impediment to creating shared use agreements (Leisure Information Network 2012, p.38).

When the sharing of spaces only begins at the operations stage, good communication is less likely to occur, and miscommunication is more likely to present divisive challenges. On the other hand, a model of shared use that begins at the planning stage increases opportunities for good communication, simultaneously empowering stakeholders to have a voice and to become allies in the process.

The Government of Western Australia Department of Sport and Recreation represents similar support for a collaborative approach prior to development of an education or similar community facility. The department's guide to shared use facilities states "evidence suggests that where preplanning occurs, the ownership by a broader range of stakeholders, partners and user groups is better understood and maintained" (Department of Sport and Recreation n.d., p.10). Preplanning and partnerships tend to ensure a greater sense of ownership across a wide range of stakeholders and users leading to more appropriate design and management as well as long-term success. Partnerships established within this community-school planning framework "will become embedded in a supportive network of relationships that link agencies at many levels of government and the community and that share overlapping reform objectives related to school funding, governance, educational programs, and facilities" (Shoshkes 2011, p.232).

7.4 Shared Use in Action: International Case Studies

The emerging concept of shared use policy development has taken shape in numerous communities across the globe encompassing the unique assets and challenges of each locale. The following four case studies from Canada, Australia, and the U.S. offer some notable differences in shared use implementation, timing in partnerships, policy, and relevant activities undertaken. Cumulatively these cases represent the components necessary for an effective shared use framework.

7.4.1 City of Edmonton, Capital of the Province of Alberta, Canada

Edmonton provides an excellent model of a community maximizing the full potential of shared use because collaboration is evident in policy at the city level in conjunction with the provincial level supporting the integrated planning of school sites (Gunderson et al. 2016). The Edmonton Joint Use Agreement: Land, effective since 2009, clearly lays out the responsibilities of all parties in the various stages of shared use planning and implementation by embedding collaborative principles

highlighting components of “Cooperative Planning, Efficiency and Planning, and Transparency and Openness” (City of Edmonton 2009). The agreement maps the planning process, development, and maintenance of land while specifying standard procedure for use of surplus non-reserve school sites and providing a schedule for school properties, among other important features.

The Edmonton Joint Use Agreement was a natural extension of established partnerships between the City, the public-school board, the Catholic school district, the regional French language school board, and Joint Use partners that has benefitted the public since the late 1950s. Representatives from each of these groups communicate with one another regularly to share information and updates about developments, ongoing projects, and opportunities. In Edmonton, shared use collaboration does not begin at the operation stage. Rather, collaboration from the onset enables shared use sites to be planned in such a way that reflects the needs and desires of everyone involved. The partners are founded on a *Joint Use: Land Agreement*, which “guides the planning, assembly, design, development and maintenance of [shared use] sites for school, recreation and park purposes, and provides the framework for decision-making related to surplus reserve and non-reserve sites” (City of Edmonton 2016, p.6).

The 2015/2016 Steering Committee, made up of ten members representing the partners, met six times over the year to carry out many functions critical to the successful implementation of shared use in the City. Among the many tasks, the committee reviewed problems and opportunities common to other cities across the globe such as the status of vacant surplus school sites, land allocation needs and new construction of school park sites, and refinements to improve upon the facilities agreement. Collaboration among the partners also guarantees that the shared use sites are monitored and evaluated on a regular basis to carry out the principles of efficiency, planning, transparency, and openness. An important aspect of the Edmonton Land Use Agreement is the enactment and authority granted to the Land Management Committee to track Edmonton school site status by categorizing a school in one of several categories: (1) operating, (2) ready for school, (3) under assembly, (4) unassembled, (5) surplus, or (6) closed. By following these general guidelines, the Land Management Committee replaced one school; and four new schools were completed and opened to students in 2016, while another 16 schools are anticipated to open in 2017.

The number of hours the community has spent using the school facilities also provides evidence of success in Edmonton. In 2015/2016, the community booked 56,612 hours of school gymnasium use and 99,864 hours of sport field use. These numbers have increased every year since 2012. The agreement benefits the schools too, which booked 17,070 hours of community pool time and 3,131 hours at the community tennis courts (City of Edmonton 2016, p.16), making additional revenue available for other educational uses through reduced costs incurred.

7.4.2 *City of Melbourne, State Capital of Victoria, Australia*

The development of successful alliances in two communities outside Melbourne, Australia provide another example of the advantages of collaborative and coordinated shared use strategies commonly utilized in southeast Australia. Under development since the late 1990s, the state of Victoria brought forth the *2006 Education and Training Reform Act*, emphasizing policy that focuses on increasing coordination between community and educational services. The Act includes specific powers to support shared use facilities and dedicates eight sections to outlining how school councils might carry out shared use and manage their facilities for public purposes (McShane et al. 2013; Victoria State Government 2006).

The Victorian Competition and Efficiency Commission (VCEC) found that up to two-thirds of government schools in Victoria share facilities or make them available for non-school purposes (McShane and Wilson 2014). The Victoria Department of Planning and Community Development compiled a *Guide to Governing Shared Community Facilities* that includes noteworthy strategies related to public participation, governance, and operations. The guide also defines a profile for facility vision, size, type, and maintenance and outlines principles of good governance for partners in shared facilities, largely centering on the need for participation, input, leadership, and consensus from all partners and stakeholders (State Government Victoria 2010).

The Department of Planning and Community Development established the Schools and Community Partnerships project in 2007 to meet the need for services and infrastructure in Melbourne's growing suburbs of Caroline Springs and Laurimar. Each suburb also established an alliance made up of a wide range of local partners, both with the objectives of delivering better school and community infrastructure that contributes to stronger, more sustainable communities and exhibiting the advantages and effectiveness of conducting government processes using a different, collaborative approach (Pope 2010).

Because of the partnerships and the resulting efficiencies of shared facilities planning and management, both alliances saved a significant amount of money estimated at over \$800,000 in just two years (Pope 2010, pp.18–19), not including the unquantified savings that were redirected either to other related projects or to enhancing the quality of facilities. Moreover, the partnerships delivered infrastructure earlier than expected and ensured that the design of buildings enhanced the overall community feel. The indoor Leisure Center created by the Caroline Springs Alliance is a high-quality facility, reflecting a standard only possible through the partnership model. Further, the center averaged 1,400 visits a week in the first year of operation and continues to serve the community in a variety of ways by providing facilities for strength training, futsal teams (a variant of soccer played on a hard court), hockey, and family-focused social events.

The infrastructure was developed when each partnership made a small investment (0.6% of the overall expenditure) into a broker facilitator, ensuring success of the alliance. All partners agreed that the cost of this position was worth the expense given the generation of significant community outcomes and the ability of most partners to recuperate initial costs through efficiencies and advantages of each alliance (Pope 2010). Developing deliberate investment strategy plays an important role in collaborative shared use.

7.4.3 City of New York, State of New York, United States

New York is an example of a state that authorizes but does not require or even expressly encourage shared use. Rather, New York State Education Law Article 9 §414 grants the trustees or board of education the ability to permit the use of the school and grounds for community purposes, either during or outside of school hours (NY Educ L §414 2015). However, policies developed at the local, school-, or district-level play a leading role in maximizing the extent to which communities rely on shared use by encouraging schools to allow community use of facilities to the greatest extent possible (DASH-NY 2015).

The capacity to maximize resources through shared use to help eliminate disparities in access to recreational facilities was recognized by New York City leaders as the impetus for local policy development. This path led to 132 initiatives, including Schoolyards to Playgrounds, launched in 2007 by then-Mayor Bloomberg as part of the city's PlaNYC 2030 to address the disparity in access to services. The goal of the Schoolyards to Playgrounds program is to put more New Yorkers in closer proximity to parks and playgrounds (specifically, enabling 85% of the population to walk to a park within ten minutes from home). The core strategy of Schoolyards to Playgrounds relies on the collaborative public-private partnership between the Parks Department, the Department of Education, and the Trust for Public Land (DASH-NY 2015) that facilitates a participatory design process with youth input as well as some private funding.

The participatory design process enables students, teachers, and staff to determine the design of spaces that meet the needs of the community. Schoolyards to Playgrounds is an example of shared use in which collaboration permeates every stage of the process—from design to implementation, transforming schoolyards into open public playgrounds and community parks accessible daily from dawn until dusk when school is not in session. As of August 2016, 257 public schoolyards were open to the public, up from the 69 that kicked off the program in 2007 (Chapman and Colangelo 2016).

7.4.4 Hamilton, County in the State of Tennessee, United States

The types of disparities seen in Hamilton County exist in communities across the country that often impact populations of similar demographics. These demographics include high minority population and low socioeconomic status. However, Tennessee Code 11–21-108 plays a role in combating some of the inequalities that are evident in the state. The Code requires that the departments of environment and conservation and education provide technical advice, cooperatively with the Tennessee School Boards Association and the Tennessee Parks and Recreation Association, to ensure collaboration between the entities that make school facilities available for recreation (NASBE 2013).

With such a supportive Code in place, Hamilton County was perfectly positioned to receive a grant from the Robert Wood Johnson Foundation. The grant led the Chattanooga-Hamilton County Health Department in 2013 to partner with local organizations and residents in the County to enter a preliminary and important stage of shared use—identification and location of health inequalities and access to recreational spaces. They found that the lack of park space was most prominent in zip codes dominated by minorities and that the health problems the area faces are worst in these same zip codes when compared with the city overall. As one way to combat these inequalities, the County Health Department added an effort through the Step ONE (Optimize with Nutrition and Exercise) initiative, focused on the implementation of shared use as a solution to these inequities (ChangeLab Solutions 2017a). One of the primary Step ONE goals is “to establish a strong organizational network of community partners which includes key leadership from government, area businesses, schools, and community based organizations” supporting the overall mission “to create a culture of health in Hamilton County where residents choose to eat healthy and be physically active” (Step One 2017, *para* 1).

The case of Hamilton County presents an example of a locale that involved residents from the start. The development of two advisory councils, working alongside public health advocates and the county education department, illustrates the cooperative commitment resulting in an open use policy for public access to school playgrounds on all elementary schools successfully passing into district policy in February 2014.

Hamilton County represents the important aspect of data collection and community needs assessment in the development of shared used. Thus, the County established critical areas and is addressing them, beginning with the areas of greatest concern. Moreover, through resident surveys, community engagement efforts, and including residents’ involvement in the advisory council, Hamilton County effectively targeted the locations, facilities, and programs that residents requested (Lewis 2016).

7.5 Discussion: Necessary Components of Effective Shared Use

The diversity in the shared use strategies found in Edmonton, Melbourne, New York City, and Hamilton County reflects the diversity of needs, assets, and creativity in each locale. Various elements are consistently evident in all of them. This framework combines both the similarities and differences to reveal the necessary components involved in ensuring cooperative design, management, and implementation of shared use sites that starts at the onset to realize the full advantages of shared use to public health. The establishment or refinement of shared use policy, planning and design participation, alliances and partnerships, facilitation, needs assessments, review of inventory, data tracking and public availability are elements of cooperative shared use that enable greater levels of success.

7.5.1 Guided by Policy

In each of the four case studies, the jurisdiction and its respective school system are guided by policy. The policies vary among the different locales, but they share a likeness in their robustness and affirmation of shared use. New York state's policy merely authorizes shared use; however, more localized policy at the level of schools and districts has stepped in to provide further necessary guidance and support (DASH-NY 2015). Thoughtful, place-based, and commending policy at all levels of government and authority will best serve the effectual implementation of shared use. When such policy is accompanied by guides for application, the potential for success is only magnified. Victoria, Australia's state guide on governing shared community facilities, dependent on a large project team and strong consultation process, is a rare but replicable example for other states providing place-based principles, tools, and checklists (State Government Victoria 2010).

7.5.2 Planning and Design Participation

Planning from the onset is one of the inherent factors in this framework for shared use, and each of the four case studies shows evidence of this element. New York City's participatory process in the case of the Schoolyards to Playgrounds program specifically illustrates how communities should be given opportunity to play an early and significant role in the design process to increase potential for enhanced shared use outcomes benefitting constituents. The program empowers students, teachers,

and staff to give ideas and input that shape the design of playgrounds and recreational spaces so that the result reflects the voices of end users of the facilities.

7.5.3 Alliances and Partnerships

Each of the cases also highlights the importance of alliances and partnerships but with notable variation according to the population characteristics. These took different forms in each community, including volunteer steering committees from various sectors, public–private partnerships assembled by local government, and organizational networks of stakeholders. A collective assessment of all four locales demonstrates that the form of collaboration can vary and still prove successful if the composition reflects the needs, desires, and make-up of the unique community.

7.5.4 Facilitation

A reasonable assumption that effective partnership facilitation played a positive influence can be garnered from successful outcomes demonstrated in each case. The only locale that attests to formal facilitation among its partners, however, is Melbourne. The broker facilitator in the two suburbs documented here was responsible for building and mediating relationships, coordinating meetings and working groups between the partners, and building capacity to make the partnerships eventually less dependent on his support. All agreed that the broker played a primary role in the partnership's success and warranted the additional funds supporting this addition. Whether or not the facilitation component is assigned to a specific person or takes on a formal role, facilitation in some capacity is essential to drive the focus of the partnership and manage potential conflict.

7.5.5 Needs Assessment

Hamilton County presents the best example of conducting a needs assessment for creating an effective and needs-based strategy. The partnership with the Health Department particularly ensured that the needs assessment focused on health-based inequalities. Notable is that although shared use can prove effective regardless of location, the specific focus on a prior assessment makes communities aware of the areas of greatest need and prompts them to tackle challenges where they are most deeply felt. Some of the methods for conducting a needs assessment include mapping, resident surveys and focus group interviews, and data collection and analysis.

7.5.6 Review of Inventory

A review of inventory, focused specifically on the availability of assets, was conducted in Edmonton. The evaluation is like a needs assessment in that the process requires foresight and advances effective planning. However, in Edmonton the shared use partners conduct reviews on vacant surplus school sites and maintain tracking on school site status to better plan and develop sites for shared use. Awareness of infrastructural stock makes planning for future use easier and strategic.

7.5.7 Data Tracking and Public Availability

Perhaps one of the most necessary factors in ensuring the wide promotion and spread of shared use from one community to another is the documentation and reporting of data, both quantitative and qualitative. Those involved in all four case studies documented their stories and made them publicly available. Some took reporting to the next step in terms of providing tangible numbers reflecting their success and challenges. The open and public availability of Edmonton's annual reports on shared use affords other communities the ability to learn what works well (and what doesn't) and how to emulate that success. Furthermore, a clearinghouse for the collection and dissemination of all local data would prove very useful in the future to study and show how best to serve communities and their public health needs through efficient shared municipal and school district planning and facility use.

7.6 Overcoming National, State, and Local Policy Barriers to Shared Use Agreements

Despite the numerous advantages of shared use and the resources available for successful execution, both real and perceived challenges threaten implementation. None of these challenges, however, are significant enough to preclude communities from usage, particularly considering the many benefits that shared use affords. A U.S. national survey of school principals identified the primary rationales behind restricting access to public use of recreational facilities. These included liability concerns, insurance, cost of running activities and programs, staffing for maintenance and security, safety concerns, and maintenance costs and responsibilities (Spengler 2012). Although understandable, the liability and insurance concerns stem from false perceptions of legal and systematic constraints. A survey of state law in all 50 states finds that no state can hold a public school to a legal duty beyond the standard of ordinary, reasonable care. Despite the presence of real liability risks,

such risks do not pose threats substantial enough to deny public use of recreational facilities (Baker and Masud 2010).

Certainly, the logistical factors of maintenance, costs, and programming can also present real and significant challenges. Because school districts have for decades designed their buildings and infrastructure solely for the use of the single school rather than to accommodate community use, hesitation to share facilities is rooted in the idea that doing so will compromise the ability to fully service the students. However, the refusal to engage in shared use, although possibly founded upon good intentions, denies holistic use of valuable resources not only to the community but also to the very students whose rights the administration is seeking to protect. These challenges support not the dismissal of shared use strategies but rather the immediate need for a mindset shift in the design and planning of schools. The longer schools and communities fail to engage in the shared use framework discussed here, the longer these difficulties will be proliferated.

The challenges of shared use necessitate a threefold solution. At the state level, policy will prove most effective by extending the “permission” to implement shared use to include support and information repositories to promote and encourage ubiquitous expansion. Beyond the nominal mention of shared use in state code, states can also provide the guiding resources to help school districts and communities navigate the complicated, yet unrestrictive, legal and systematic hurdles. At the local level, the public availability and dissemination of data, resources, and success stories will inspire other communities to engage in the same strategies and activities. A variety of websites and clearinghouses currently exist to make these resources available, but communities will need to play a role in adding to the depth and comprehensiveness for other locales to replicate similar strategies and for future studies to effectively measure their success. Finally, local communities will also need to consider shifting to the framework of shared use presented here to fully circumvent the legal and logistical challenges posed against shared use as played out over the last several years. A holistic approach of shared ownership, planning, and implementation assumes that partnership will ensure that all liability, design, and logistical responsibilities and problems will have a mechanism to continuously address and resolve problems from the onset. Ultimately, the shift towards collaborative shared use proffers the avoidance of all the oft-cited concerns and challenges.

7.7 Recommendations and Discussion

Shared use in any form—proactively or retroactively applied to infrastructure—offers benefits to the community. In many cases, a retroactive application of shared use to existing facilities is perhaps the only option. The ideal model of shared use, however, is one that is built upon collaboration from the onset. True effectiveness lies in collaboration that involves all stakeholders and capitalizes on participation from the municipality, the community, and the school throughout every stage of shared use—design, planning, facility construction, and operations. Moreover, the

application of recommended collaborative shared use components—the establishment or refinement of shared use policy, planning and design participation, alliances and partnerships, facilitation, needs assessments, review of inventory, data tracking and public availability, provides a basis for improvement even when these stages have already taken place and the facilities are not slated for future redevelopment. Through application of this framework at any stage of facility development, municipalities and school leadership may only see significant improvements in public health from shared use when they shift the entire mindset about planning, designing, operating, and managing recreational facilities. For instance, school districts and municipal leaders always have a continuous opportunity to improve partnerships, seek greater facilitation, conduct needs assessments, and review inventory. However, meaningful and effective partnership entails representation from all stakeholders and user groups having the opportunity to participate in the process that ultimately determines the spaces they will use.

To proliferate the advantages of the framework, local application of shared use must then be promulgated through a system of data sharing within and across communities. Minimal state-to-state and multilevel government communication has historically limited the efficiencies and effectiveness of strategies that seek to improve public health (Fiedler 2015). However, a mechanism based on an extension of protocols already in place by the CDC for reporting health data can formulate a subset of relevant data related to shared use (Fiedler 2014, 2015). Modifications to data collection, the type of questions being asked, and linking data to patient conditions standardized through the International Classification of Diseases can bring forth the methods to quantifiably model data and assess efficiency and effectiveness of policy (Fiedler and Ortiz-Baerga 2017) (Fig. 7.2).

Further, sharing data and cases across jurisdictions will be most helpful in quantifying and illustrating stories of the impact that shared use can have on public health efforts, specifically conveying which strategies work best under various circumstances. States can support and promote this objective by initiating a centralized outlet for information and data sharing as part of their holistic efforts to not only permit shared use but also expand the concept. Each locale can then follow through by providing the information and data that relates to its own application of shared use within this framework.

This paper has reviewed the insufficiencies in recreational and infrastructural offerings and the related public health challenges to demonstrate the need for a new framework of shared use agreements that begins with municipal-school district partnerships and carries through to all stages of facility planning and management. Available findings indicate that such a framework has the potential to incite real change in how community voices impact the availability of recreational spaces and in public health outcomes. On this foundation, shared use policy serves to improve communication methods between and among multilevel governments to generate awareness, provide revenue sharing opportunities, and offer multiple venues to indirectly achieve the goal of improved health as an important mechanism for change.

Much work can be done to further examine this framework of shared use and its' relationship with public health. Preliminary quantitative analysis of variables in

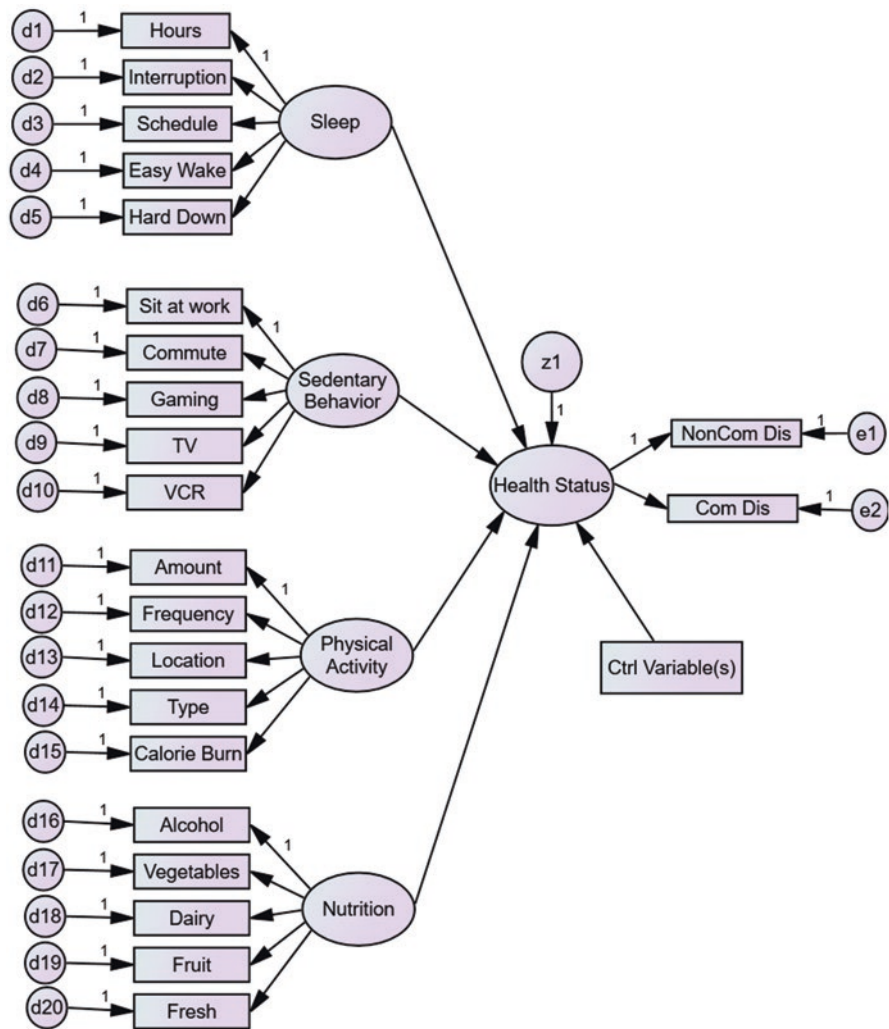


Fig. 7.2 Modifying questions in existing behavioral survey strategies of the United States Centers for Disease Control and Prevention to ordinal questions with a Likert scale represent an opportunity to use these predictive behaviors in relation to existing conditions reported in the International Classification of Diseases to form a structural equation model permitting the capture of overall population health or segments of data (e.g., sedentary behavior, physical activity) such as shared use (Fiedler and Ortiz-Baerga 2017)

available databases listed in additional recommended materials underwent experimental regression analysis without definitive results based on a lack of consistency with variable types and other considerations. Limitations on the available metrics in the United States related to shared use and associated problems linked to inadequate provisions for physical activity were apparent in four factors. These included the

variability in local policies, the demographic and environmental characteristics within each state, the short amount of time that shared use policies have been in place, and finally the lack of proliferation of shared use in most jurisdictions at a finer level than the state. Cumulatively these factors are problematic in the analysis, quantification, and correlation between shared use policies and improved public health.

However, case study analysis reveals future strategies that may lead to quantifiable analysis that is dependent on local jurisdictions collecting and reporting information indicating local implementation of shared use and the community use that has taken place as a result. Such self-reported data need not require extensive time or effort on the part of each locale, but a central clearinghouse with this information would greatly enhance data analysis regarding shared use and public health outcomes.

Further, the ability to utilize social capital and networking strategies from the onset of shared use reflected in successful ventures in the case studies illustrates the potential to garner quantitative data on the effectiveness of contributions from multiple stakeholders through the theoretical premise of Social Capital. Social Capital Theory is founded on fundamental predictive variables such as trust, network diversity, network size and demographic diversity that test outcomes such as emotional support, social benefits, and performance (Granovetter 1973; Tsai and Ghoshal 1998) with direct application to international education settings (Bonnell et al. 2013). The relevance of this proposed theoretical approach is based on three facets of the model: (1) structural, (2) relational and (3) cognitive anchors (Tsai and Ghoshal 1998). Applying these anchors in the promotion of shared use policy starts with social interactions that begin to formulate the structure. Eventually, these interactions begin to build relational trust more likely leading to the formation of a shared vision. Finally, the combination of three facets should lead to resource exchange that creates value and produces viable application of proposed policy and thus, an advantageous product or development (Granovetter 1973; Tsai and Ghoshal 1998).

Measuring effectiveness, efficiency, and equity in relation to community services is one way to measure performance (Fig. 7.3). Tracking the number of funding sources, group members, diversity of membership, or measures of trust and cooperation (e.g., the proposed inclusion of school boards in land use and development decisions) can be valid predictive measures in the effectiveness of shared use propositions. Performance can also be measured from the social benefits of community inclusion that has been demonstrated to positively impact health and aid in the reduction of risk behaviors known to contribute to poor public health outcomes (Lin 2001).

There is nondefinitive evidence for the feasibility and effectiveness of school environment interventions involving community/relationship building, empowering student participation in modifying schools' food/physical activity environments, and playground improvements ... This evidence lends broad support to theories of social development, social capital, and human functioning and school organization (Bonnell et al. 2013, p.vi).

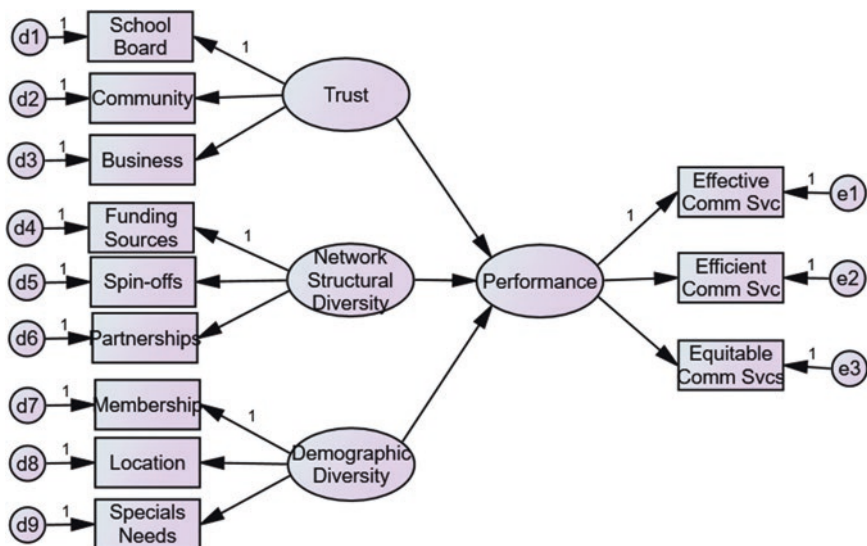


Fig. 7.3 Advanced statistical analysis could be conducted using a method of structural equation modeling (a graphical depiction of data) using information from community members, employees, and contributors as predictive measures to gauge performance measured by outcome scales associated with effective, efficient and equitable community services (Fiedler and Cook 2017)

Ultimately, the value derived from shared use and how communities can advance their health and social status can be demonstrated through constructs embedded in Social Capital Theory providing a foundation for baseline metrics to enhance data sharing. The approach capitalizes on the aspect of personal information, measuring both predictors and outcomes, to better understand organizational performance and population health. Thus, defining organizational performance metrics in measurable terms based on Social Capital, or using the premise to advance data exchange, will permit the universal collection and analysis of data that could quantitatively demonstrate the effectiveness and efficiency of shared use and other programs.

7.8 Summary

This chapter began with an emphasis on the historical application of shared use and the relationship between poor infrastructure and poor health. Four case studies from three countries (Canada, Australia, and the United States) formed the basis of a framework for embedding shared use agreements into the municipal planning process. Several important aspects of application of shared use include the conduct of a community needs assessment, an inventory of assets that could be shared, partnerships, and the important nature of data strategies to enhance performance metrics and increase decision-making.

Glossary

Community A group of people living in a common location or sharing a certain set of attributes; used in this context to refer to the citizens who share a stake in the subject area.

Facilitation The act of easing communication and collaboration among various groups and/or individuals.

Greenfield development Construction on previously undeveloped land that has never been used, often outside the boundaries of existing urban infrastructure and buildings.

International Classification of Diseases (ICD) An international standard for coding and terminology for medically diagnosed diseases or injuries (e.g., 250.00 Diabetes Mellitus, Type II, without complication); in Fig. 7.2, diabetes would be an example of a noncommunicable, chronic disease.

Likert scale Measures a level of agreement or disagreement with a given statement; normally incremental in 3, 5 or 7 depending on the method of statistical analysis (agree, neither agree or disagree, or disagree is an example of a 3-point Likert scale).

Ordinal A categorical data type used in survey research to rank variables; response scales can be Yes/No (dichotomous) or have multiple values such as in a Likert scale.

Quality of life The general well-being of a society and its members, largely dependent on physical, social, economic, and other indicators that either positively or negatively affect one's satisfaction with life.

Recreational facilities A physical building or space that provides opportunities for physical activity and leisure, such as a walking path, swimming pool, running track, or sports field; used most often in this context about publicly available spaces.

Shared use or joint use An agreement, either formal or informal, between two or more entities that enables the collective use of a facility or property by different groups; most commonly referenced in this context to describe an agreement between a school district and its respective municipal leaders that allows community use of a school building or property.

Structural equation modeling (SEM) Data elements are portrayed graphically; advanced method of statistical analysis where survey responses to exogenous (independent, predictor, X) variables can be measured for statistical significance against endogenous (dependent, outcomes, Y); the fundamental algebraic relationship between exogenous and endogenous variables in Fig. 7.2 is that Health Status = f (Sleep + Sedentary Behavior + Physical Activity + Nutrition) or $y = f(x_n) + \text{measurement error}$.

Urban sprawl Unconstrained spread of development and human populations outside of a centralized urban core, which often results in suburbanized, low-density, and car-dependent populations.

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