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3   **Toward Livability Ethics:**

4   **A Framework to Guide Planning, Design and Engineering Decisions**

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7   Submitted on: August 1, 2013

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9   Revised and resubmitted: November 15, 2013

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33   Word Count
34   Abstract = 250
35   Text = 6,098
36   2 Figures = 500
37   1 Tables = 250
38   Total = 7,089

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39 **ABSTRACT**
40 "Livability" has become a popular term in planning, design and engineering circles, yet there
41 continues to be a lack of clear consensus on what livability *actually means*, let alone how to
42 measure it and how to achieve it.
43   In response, this article draws deeply on the literature to develop a comprehensive
44 understanding of this complex concept. Our analysis suggests that livability is best understood as
45 an individual's ability to access opportunities to improve their quality of life. However, one's
46 quality of life pursuit can actually detract from the livability of another. This is particularly true
47 in transportation, as one's travel inherently touches the lives of others along the pathway.
48   As wealth and social status often play a key role in determining whose quality of life
49 pursuit wins out, a moral and ethical framework must be at the heart of our achievement of
50 livability. Therefore, livability in a just society requires all individuals be assured equal access to
51 such opportunities.
52   Rather than one, monolithic definition of livability there is a need for a theoretical moral
53 basis to measure, understand and judge activities toward livability achievement through a set of
54 clear, concise and easily applicable *livability ethics*.
55   Towards this goal, this paper first presents a comprehensive examination of the literature,
56 and then provides guidance to professionals on the application of livability concepts in practice
57 by articulating: a) an overarching definition of livability and set of supporting meta-principles, b)
58 a set of ethical livability principles, and finally c) a set of livability process-principles.
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INTRODUCTION

"Livability" has become a popular term among planners in the United States. Interest in the concept emerged in the 1970s and was canonized on June 16, 2009 when the Secretaries of HUD, USDOT and EPA introduced the six principles of livability of the Partnership for Sustainable Communities *(1)*. Yet despite frequent discussions of livability by planners, urban designer, and engineers over the years, there is still no clear consensus on what livability *actually means*, let alone how to measure it and how to achieve it.

This is understandable as livability can embody a complex array of factors that affect the well-being of individuals and social groups. This paper's authors, here and in other writings, have proposed a relatively concise definition that livability is best understood as an individual's ability to readily access opportunities for improving their personal quality-of-life (for commuting, work, education, rest, rejuvenation, etc.).

However, a just society requires that all individuals be assured equal access to such opportunities—a monumental and complex responsibility and undertaking. Furthermore, one person's pursuit of livability may degrade the *livability of* others, adding further complexity to livability planning processes. This is particularly true in transportation, as a person's travel inherently touches the lives of those along the route, in both positive and negative ways. While transportation access can mean opportunities for some, it can have negative consequences for others: bifurcation of neighborhoods, threats to pedestrians & bicyclist safety, air & noise pollution, and congestion to name just a few *(2)*. Therefore, when we consider the effects of an individual's quality of life pursuits on those in the larger community, we begin to see that livability cannot and should not be seen simply in individualistic terms—livability must be provided for all and not just a lucky few with the means to get their way. In sum, policies to promote livability pursuits can actually worsen the condition of the vulnerable and less fortunate; and when such policies deprive individuals equal access to livability opportunities they are arguably unethical.

Based on this logic, rather than proposing one, monolithic definition of livability that (intentionally or otherwise) favors a select few, this paper addresses the need for a more comprehensive moral basis to measure, understand and judge activities toward livability achievement through a framework of *livability ethics.*

Drawing broadly from the literature, this article works toward a comprehensive ethical framework to guide planning, design and engineering decisions. To identify and propose these ethical principles and help achieve optimal livability for individuals, groups and society, we have systematically: 1) conducted a comprehensive examination of the literature to clarify the various concepts of livability, and identify the gaps in our understanding of this oft-used term; and 2) provided a roadmap for planners, urban designers and engineers to apply livability concepts in practice. This professional guidance is provided through the articulation of: a) an overarching definition of livability and set of supporting meta-principles, b) a set of ethical livability principles, and finally c) a set of livability process-principles. Pursuing an optimal and equitable level of livability for individuals, groups and society as a whole, appears best served by this more comprehensive approach.

Pursuits In Conflict: Jockeying for a Decent Quality Of Life

Our concise definition of livability (people's access to opportunities to use in the pursuit of improvements to their quality of life) is based on the "pursuit of happiness" clause in the United States Declaration of Independence. As such it is a fundamentally American construct, but one

105 that can easily apply to all humanity. In this way, livability cannot be dismissed as merely a
106 rhetorical tool for urbane, well-to-do elites to justify smart growth or transit-oriented
107 development, but rather, it is firmly rooted in the universal, humanistic aspirations of the
108 enlightenment from which our civilization finds its purpose. It is a definition of livability for all.
109   However, this inherent flexibility is both boon and curse. To put it plainly: one person's
110 pursuit of quality of life can harm the livability of another, especially true in transportation as
111 motorists can easily argue that being allowed to drive fast down a street improves their quality of
112 life. But what about the neighborhood this driver is speeding through? In such cases, Donald
113 Appleyard found that speeding motorists measurably degraded the quality of life for residents,
114 workers, and visitors sharing the street environment *(2)*. We see this conflict between the
115 legitimate quality of life pursuits of individuals as the theoretical "crack in the pavement" so
116 many have tripped over in the past when trying to define livability. We propose that this conflict
117 can only be mitigated through a universally-acceptable set of moral and ethical principles.
118   Policies to promote the pursuit of livability are clearly unethical when they serve to
119 worsen the condition of the vulnerable and less fortunate, and when they inequitably deprive
120 access to social and economic opportunity. As an individual's ability to realize livability is tied
121 to the distribution and accessibility of such primary social goods as housing, jobs, education,
122 health and medical services, a just society therefore requires that all individuals be assured equal
123 access to them. This equity in opportunity access can be assured in many ways, but the most
124 straight-forward is to establish minimum standards. The establishment of such measures is a
125 topic of ongoing work by this article's coauthors on TCRP H-45 Livable Transit Corridors:
126 Methods, Metrics and Strategies *(3)*.
127   Clearly, we need a theoretical and moral framework to be able to measure, understand,
128 and mediate our efforts to achieve livability—what we can call *livability ethics*. Inspired by
129 Beatley's work on land use ethics *(4–8)* and Rawlsian theory of a just society *(9)*, livability ethics
130 should address the following questions: What are the components of livability? What are
131 acceptable negative impacts of one's livability pursuit on the livability of others? To what extent
132 are we obligated to reach out to the disadvantaged and disenfranchised? How should we deal
133 with and mediate conflicts between quality of life pursuits? With better-defined livability ethics,
134 we can make better decisions and achieve optimal levels of livability for society as a whole.

135 **LITERATURE REVIEW: DEFINING AND MEASURING LIVABILITY**
136 In 2009, U.S. Department of Transportation Secretary Ray LaHood provided a simple 12-word
137 definition of livability: "If you don't want an automobile, you don't have to have one."*(10)* This
138 and similar declarations boil livability down to serving diverse people and providing diverse
139 choices *(11)*. Yet, to a great degree, the literature on livability for planners, designers and
140 engineers does not deal directly with people, but focuses primarily on places—in particular, the
141 physical and spatial characteristics required for places to be considered livable *(12) (13)*. While
142 place-based livability literature is valuable, this article goes farther to explore how working
143 towards livability can complement place-making efforts with other perspectives and approaches
144 *(11)*; ideas that have not been traditionally associated with livability. The lessons learned from
145 this review are meant to provide a roadmap for planning, urban design and engineering processes
146 in and around the public realm.
147   Broadly speaking, definitions of livability found in the literature typically focus on either
148 the physical features of livable places or on the benefits that livable places offer people. People
149 are usually identified as "the public," but some definitions also refer to specific types of people,
150 such as residents, workers, or families *(14) (15) (16) (17) (18)* (See Table). The central

151 importance of "people" to livability is also reflected through references to choice *(18) (19)*,
152 opportunity *(14) (15) (17) (19) (20) (21)*, and quality of life *(14) (15) (17) (20) (21) (22) (23)*.
153   This literature on livability shares two common themes. First, while definitions that
154 describe quality of life are not usually explicit about what it means, we can infer that an
155 individual's level of satisfaction with their quality of life represents the bottom line indication of
156 whether livability is experienced. Second, although the livability literature tends to focus on the
157 land use and physical characteristics of livable places, this quality of life satisfaction (QOLS) is
158 highly dependent on people's life circumstances and lifestyles.
159   Building on these themes, we propose the following foundational concept to the creation
160 of an ethical framework for livability ethics:
161   *Livability describes the collection of opportunities available to people that they can use to*
162   *achieve a satisfying level of quality of life for themselves, and those they care about.*

163 **Livability and Quality of Life**
164   Quality of life and livability are often used synonymously. The advocacy organization,
165 Partners for Livable Communities, goes as far as stating that the two concepts are one and the
166 same *(24)*. The Association of State Highway and Transportation Officials *(25)*, the Washington
167 State Department of Transportation *(26)*, and the State of Oregon *(27)* emphasize the connection
168 between livability and quality of life by describing the latter as a distinct component of livability.
169   Other definitions like those offered by the Victoria Transport Policy Institute *(28)* and the
170 AARP *(16)* do not explicitly mention quality of life, but include concepts and components that
171 are typically associated with quality of life such as the quality of social interactions. This
172 suggests that while a wide variety of quality of life components might be used to define
173 livability, there is no definitive (or succinct) list to provide a consistent livability definition.
174   AARP *(16)* also focuses on individuals' choices and residents' social engagement with
175 the community. Similarly, the State of Oregon *(27)* is explicit about outcomes pertaining to
176 suitability for "human living" that are distinct from and flow from the attributes of a community.
177   Nevertheless, a person's derivation of *quality of life satisfaction* from a set of *livability*
178 *opportunities* depends greatly on personal, qualitative perceptions. In Appleyard's 1981 seminal
179 work on residential satisfaction with their neighborhood and street environment, livability is
180 characterized as the net effect of such perceptions shaped by past history, future aspirations, and
181 adaptive behavior that can sublimate an individual's recognition of the actual degradation in
182 environmental quality *(2)*.
183   Furthermore, there are important social equity considerations in how we provide *livability*
184 *opportunities*. For example, it can be argued that in a diverse society, two people will not
185 perceive environmental and social qualities the same, will not seek the same engagement, and
186 will not seek the same modes of human living.
187   In sum, two themes emerge regarding quality of life in the review of livability literature:
188   1. Although livability literature tends to focus on the land use and physical
189   characteristics of livable places, it also depends on people's lifestyles and their
190   life circumstances.
191   2. While definitions that describe quality of life are not usually explicit about what it
192   means, we can infer that the degree an individual can derive satisfaction from
193   *livability opportunities*, represents the bottom line indication of whether livability
194   is experienced.
195   Therefore, in approaching the development of an ethical framework for livability it is
196 important to consider the deeper relationship between the characteristics of places and situations,
197 and the subjective nature of how and why people experience them as livable.

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198 **The Performance and Prescriptive Dimensions of Livability in the Literature**
199 In our review of livability definitions from the literature and practice (see a summary of the
200 definitions found in the literature in Table 1), two distinct definitional dimensions emerge:
201 performance and prescriptive. Performance dimensions focus on descriptive criteria (qualities
202 and measures) of livability, while prescriptive dimensions describe policy interventions and end-
203 state outcomes. Both are useful, as the performance dimension describes what should be
204 measured while the prescriptive dimension provides guidance for implementation (more
205 affordable housing, greater transportation choices, etc.).

206 **Table 1. Examples of Livability Definitions**

Agency/ Organization	Definition	Refers to…				
		Design/Land Use	People	Opportunity	Choice	Quality of Life
AASHTO *(25)* **(Road to Livability)**	AASHTO's "livability" objective is to use transportation investments to improve standards of living, the environment, and **quality of life** for all communities; rural, suburban, and urban.					Y
WSDOT *(26)* **(Livable Communities Policy)**	A "livable future" is one that is enduring, vibrant, and responsible (civil), and offers a desirable **quality of life**. This requires a balance of three key societal goals: vibrant communities, vital economy, and sustainable environment.					Y
Victoria Transportation Policy Institute *(28)*	"Community livability" refers to the environmental and social **quality** of an area as perceived by **residents, employees, customers, and visitors**. This includes safety and health (for example, traffic safety, personal security, and public health), local environmental conditions (for example, cleanliness, noise, dust, air quality, and water quality), the quality of social interactions (neighborliness, fairness, respect, community identity and pride), opportunities for recreation and entertainment, aesthetics, and existence of unique cultural and environmental resources (historic structures, mature trees, traditional architectural styles).	Y	Y	Y		Y
Oregon Least Cost Planning Program *(24) (27)*	Livability [is] "the attributes of a community that affect its suitability for human living." **Quality of life** [is] "the effects of a community's livability on its **residents**."		Y			Y
AARP Beyond 50.05 *(16)*	A livable community is one that has affordable and appropriate housing, supportive community features and services, and adequate mobility **options**, which together facilitate personal independence and the engagement of **residents** in civic and social life.	Y	Y	Y		
Partners for Livable Communities *(24)*	Livability is the sum of the factors that add up to a community's **quality of life**—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.	Y		Y		Y

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Table 1. Examples of Livability Definitions (cont.)

Agency/ Organization	Definition	Design/Land Use	People	Opportunity	Choice	Quality of Life
		Refers to…				
Clinton-Gore Building Livable Communities Program *(17)*	The Livability Agenda aims to help citizens and communities: • preserve green spaces that promote clean air and clean water, sustain wildlife, and provide **families** with places to walk, play, and relax • ease traffic congestion by improving road planning, strengthening existing transportation systems, and expanding use of alternative transportation • restore a sense of community by fostering **citizen** and private sector involvement in local planning, including the placement of schools and other public facilities. • promote collaboration among neighboring communities – cities, suburbs or rural areas – to develop regional growth strategies and address common issues like crime. • enhance economic competitiveness by nurturing a high **quality of life** that attracts well-trained **workers** and cutting-edge industries	Y	Y	Y		Y
American Institute of Architects *(29)*	Livability is best defined at the local level. Broadly speaking, a livable community recognizes its own unique identity and places a high value on the planning processes that help manage growth and change to maintain and enhance its community character. Livability 101 offers eight fundamental planning and design principles that must be considered as communities evolve over time: • a sense of place • mixed-use development • density • effective planning for regional transportation • street-savvy design • physical health and community design • public safety, personal security • a sustainable approach to neighborhood and regional development	Y				
U.S. DOT *(18)* **(Strategic Plan)**	Livable communities are places where transportation, housing, and commercial development investments have been coordinated so that **people** have access to adequate, affordable and environmentally sustainable travel **options**.	Y	Y		Y	

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Agency/ Organization	Definition	Design/Land Use	People	Opportunity	Choice	Quality of Life
			Refers to…			
Partnership for Sustainable Communities (U.S. DOT, EPA, HUD) *(1)*	The partnership agencies incorporate six principles of livability into federal funding programs, policies, and future legislative proposals: • provide more transportation choices • promote equitable, affordable housing for **people** of all ages, incomes races & ethnicities • enhance economic competitiveness • support existing communities • coordinate and leverage federal policies and investment • value communities and neighborhoods	Y	Y	Y	Y	

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Predominately Performance-Based Definitions of Livability

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214   Performance livability dimensions provide criteria on what makes a livable community. Such
215   definitions suggest that livability is some combination of desirable characteristics *(25) (26) (27)*
216   *(24)*. However, they offer few insights into how the characteristics should be combined or how
217   these components make one community more livable than another. For example, Fabish and
218   Haas *(30)* review the goals of five livability programs in the U.S. In selecting these goals, each
219   agency made a set of implicit or explicit assumptions about livability, grouping these
220   performance characteristics of livability as environment, economy, land use, transportation,
221   equity and community *(30)*. While useful to focus on performance measures to guide processes
222   of problem diagnosis, policy response (prognosis), monitoring, forecasting, etc., performance
223   measures on their own are somewhat insufficient. Therefore, several performance-based
224   livability definitions have prescriptive components as well. These definitions describe the
225   physical and performance characteristics of a livable community while also providing policies
226   and programs that help you get there *(17) (18) (19) (21) (22) (29) (31)*.

Predominately Prescriptive Definitions of Livability

227
228   Instead of focusing on the performance measures of livability, prescriptive definitions focus on
229   describing end-state conditions, suggesting strategies to achieve it (provide more affordable
230   housing, transportation choices, etc.). Therefore, while prescriptive definitions may be more
231   closely related to policy outcomes, they may provide only limited insights into the underlying
232   measures needed to guide complex planning processes.

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233   Furthermore, prescriptive definitions are perhaps best suited to situations where there is
234 little controversy or disagreement between stakeholders as to the desired livability outcomes,
235 where guidance on practical policy and investment decisions takes precedence. As a result,
236 prescriptive definitions tend to be either agency-specific, that is, used to communicate policy and
237 operational directives within an organization *(25) (32) (33) (34)*, or advocacy-specific, that is,
238 used by organizations to persuade other actors to adopt livability best practices.
239   Another distinction between performance and prescription definitions is in the manner
240 they address how people may experience and appreciate of quality of life opportunities. While it
241 makes perfect sense to tie the performance of our places to infer how users will experience
242 quality of life, it is not reasonable to prescribe how they will experience it. Therefore, care must
243 be taken not to allow prescription to preempt planning processes. Otherwise, it might be
244 construed as telling people how they should live *(35) (36)*. Prescriptions focusing on expanding
245 choice and opportunity can help avoid this pitfall *(37)*. In other words, prescriptions that focus on
246 place-making will be recognized as the legitimate subject of political deliberation but anything
247 that prescribes the "right" user experience could be regarded as an infringement.

248 *Processes Before Prescriptions: Six Livability Principles of the USDOT/HUD/EPA Sustainable*
249 *Communities Partnership*

250 Livability came to the forefront of federal policy when the U.S. Department of Housing and
251 Urban Development, the United States Department of Transportation, and the U.S.
252 Environmental Protection Agency jointly introduced the following Six Livability Principles of
253 their Sustainable Communities Partnership *(34)*:
254   1. Provide more transportation choices;
255   2. Promote equitable, affordable housing;
256   3. Enhance economic competitiveness;
257   4. Support existing communities;
258   5. Coordinate and leverage federal policies and investment; and
259   6. Value communities and neighborhoods
260   Like many definitions found in the literature, these principles are mostly prescriptions for
261 outcomes resulting from investments in physical infrastructure and services (mostly to increase
262 the array of opportunities and choices). While not telling us exactly why a place is livable, these
263 prescriptions do suggest how we might measure performance (e.g., provide more transportation
264 choices, affordable housing, etc.). And while they touch on processes helpful toward achieving
265 livability (such as coordinating and leveraging federal policies and investment), effectively
266 realizing livability likely depends on overarching principles and performance measures that can
267 guide such planning, design and engineering processes. A recent review of the performance of
268 livability programs suggests that focusing on decision-making processes provides a useful
269 framework toward achieving livability *(38)*. Along these lines, effective decision-making
270 requires widespread community and stakeholder agreement on a common set of values—likely
271 helped by the employment of a livability ethic.

272 **TOWARD LIVABILITY ETHICS**
273 Based on our review of the literature and our applied planning experience, we propose the
274 following foundational concepts to guide the development of our livability definition and related
275 concepts:

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- Using both prescriptive and performance dimensions helps identify and determine the best policy strategies to achieve livability, as well as benchmark and monitor our progress. Livability can only be affected through actions, and actions are effectively guided by prescriptive measures. However, it is important to focus first on broad principles so measures can guide complex and uncertain processes in a comprehensive, holistic manner.
- Livability definitions should incorporate as many performance-based dimensions as possible, but also be guided by broader principles—a livability ethic.

This ethical framework should seek to do some of the following:

1) *mediate between competing actions* in the pursuit of livability;
2) *ensure access* to livability opportunities is equitably obtainable, environmentally sustainable and economically viable; and
3) *provide comprehensive guidance* to planning, design and engineering processes.

Livability and Sustainability

To apply the concept of livability ethics we need a clear yet sufficiently broad understanding of livability that will encompass the widest possible set of perspectives on quality of life and livability. This balance between specificity and inclusiveness should therefore be at the heart of livability ethics.

Our proposed ethical principles are modeled on a similar balance that was struck by the United Nation's sustainable development principles, published in the 1987 report *Our Common Future* (also known as the *Brundtland Report*) *(2)*. According to the *Brundtland Report*, sustainable development should "meet the needs of the present generation, without compromising the ability of future generations to meet their own needs." Importantly, two key principles accompany this definition: 1) the concept of *needs*, in particular the "essential needs of the world's poor, to which overriding priority should be given;" and 2) the idea of *limitations*. Out of this definition emerged the "Three-E" dimensions of sustainability: *environment*, *economy* and *equity* which can be viewed as the foundations for an ethical framework for sustainability. For years, the Three-Es have guided a large scientific, economic, and socio-metric effort to measure, value, and prioritize actions towards achieving *sustainability* in a variety of contexts. We ask, why can we not give *livability* this level of attention as well?

It is important, however, not to conflate livability with sustainability, as they have important differences along temporal, physical, and individual dimensions. Livability deals with human welfare broadly, is more localized, and place-based *(39)*. Its attainment is often dependent on individual, subjective user-experience shaped by expectations, personal history, and perceptions. Along these lines, livability pursuits are often driven by near-term personal motives—a stark contrast to the underlying principles guiding long-term sustainability achievement. While there are important areas of overlap, we should recognize how the pursuit of livability can conflict with the pursuit of sustainability—speaking directly to the need for livability ethics.

The Urban Ecology of Livability Achievement

Before we propose a set of preliminary ethical principles, it is worthwhile to understand the arena and actors associated with the achievement of livability, which will help frame further discussions. From our review of the literature and practice, planners and policy-makers should consider these following aspects of livability achievement: *Place Experience*, *Actors and Arenas, and Power and Process.*

10

321 *People's Experience with Place in the Public Realm*
322 Like many definitions found in the literature, the Six Livability Principles focus on physical
323 aspects and services of a place, rather than dealing directly with people's experiences and their
324 satisfaction with these places—crucial in determining a place's livability—or, more specifically
325 its ability to offer a satisfying quality of life. A place-based, public realm focus makes sense,
326 since these are common domains of many planning, design, and engineering efforts. But the
327 literature suggests that achieving livability has much to do with highly subjective individual
328 perceptions, expectations, and experiences. Therefore measuring it is not an easy task.

329 *Actors and Arenas of Livability Achievement: Interactions in the Public Realm*
330 In sum, livability is about access to opportunities. In theory, communities with the
331 highest levels of livability are those that offer a greater set of opportunities (choices) for people
332 to improve the quality of their lives. To better understand this state of livability achievement, it is
333 helpful to recognize two distinct groups, *Stewards* and *Constituents*:

- **Stewards** are professionals working in the public interest on livability enhancement. For the purpose of this article, *stewards* are those who deal primarily with planning, design and engineering decisions in and around the public realm, and whose focus is to provide the livability opportunities (transportation choice, affordable housing, etc.) that may lead to the realization by individuals (constituents) of a satisfying quality of life.
- **Constituents** are individuals whose interactions with the array of livability opportunities (often, but not always facilitated by stewards), determine their ultimate level of *quality of life satisfaction.*

342 From the perspective of a research analyst, in this framework the conditions and
343 opportunities for livability achievement can be seen as the inputs (or independent variables)
344 provided by the *stewards*, while *quality of life satisfaction* is the outcome (dependent variable)
345 experienced by individual *constituents*. *Stewards* can provide the opportunities, but cannot
346 control or easily measure how *constituents* will actually experience them, now and into the
347 future.
348 Figure 1 illustrates how *constituents* convert livability opportunities (inputs provided by
349 *stewards)* into quality of life satisfaction (outcomes).

350
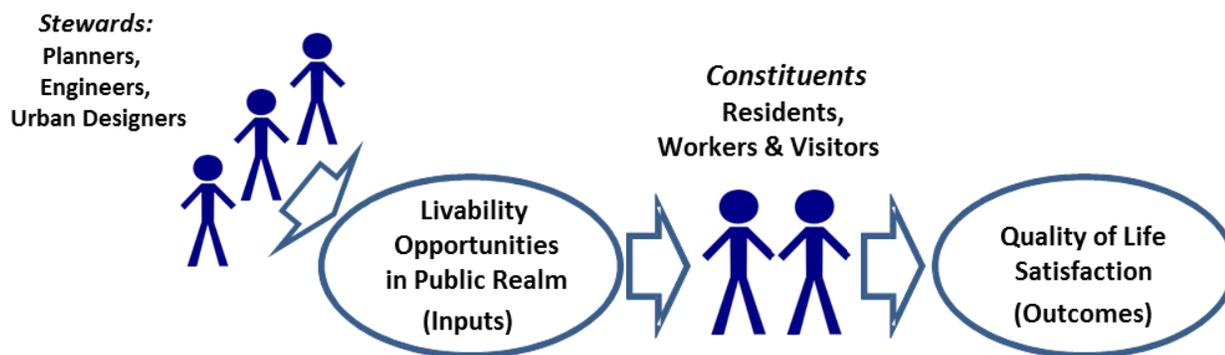
351
352 *Figure 1. People (Constituents) Convert Livability Opportunities in the Public Realm*
353 *(Provided by Stewards) into Quality of Life Satisfaction (QOLS) Outcomes*

354 　　　While livability opportunities (inputs) are relatively easy to objectively measure, quality
355 of life satisfaction (outcomes) is influenced by a complex array of factors, including highly
356 subjective individual preferences, past experiences, expectations, etc. Therefore, *stewards* will
357 often have to make a leap of faith about the degree to which their *constituents* will ultimately be
358 satisfied with the livability opportunities made available to them.
359 　　　Our goal with this paper is to reduce the risks inherent in such a leap of faith through the
360 use of a livability ethics framework that is designed to help *stewards* equitably provide livability
361 opportunities in a manner that will ensure that as many *constituents* as possible can derive
362 enduring levels of quality of life satisfaction.

363 *Power and Process*
364 Achieving livability also requires us to understand power relations at multiple scales and
365 dimensions—from the degree of coordination at the regional institutional level, on down to the
366 neighborhood where individual livability pursuits can potentially be in conflict. Therefore, it is
367 important to focus on processes to make sure context, values, and social equity are considered
368 from multiple perspectives and scales (local to regional). And we need a series of principles
369 embodied in a *livability ethic* to help guide our processes—not only in how we measure and
370 understand current conditions, but how we prioritize and implement strategies to improve access
371 to livability-enhancing opportunities and choices in the future.

372 **Livability Ethical Principles to Guide Planning, Design, and Engineering Decisions**
373 Inspired by Beatley's work on land use ethics*(4–8)* and Rawlsian theory of a just society *(9)*, the
374 following are a series of broad ethical principles designed to guide our work to equitably achieve
375 societal livability. They are admittedly open to much discretion in their specific application.
376 They are offered, however, as a starting point for discussion; they are not intended to be
377 organized in any prioritized manner, but rather each principle is viewed as equally important.
378 　　　To help guide people working in the public interest through this uncertain landscape, it
379 makes sense to offer a preliminary definition of livability, similar to the U.N.'s encompassing yet
380 concise definition of sustainable development, and as framed by the above discussion of "The
381 Urban Ecology of Livability Achievement".
382 　　　As a starting point for discussion, we offer the following preliminary articulation of a
383 definition of livability, accompanied by a set of overarching meta- principles to help guide
384 planning, design and engineering decisions in order to equitably optimize a society's overall
385 livability achievement.
386
387 ***Livability is the accessibility people have to opportunities in and around the public realm (for***
388 ***commuting, work, education, rest, rejuvenation, etc.) to improve and/or maintain their desired***
389 ***quality of life.***
390
391 　　　As with the UN's definition of sustainable development, this definition should be
392 accompanied, at the very least, by the following fundamental ethical meta-principles:
393 　　　a. ***One's pursuit of quality of life satisfaction should not unduly detract from the***
394 　　　　***livability of others; and***
395 　　　b. ***Care should be taken to meet the needs of society's most vulnerable, including the***
396 　　　　***poor, the disenfranchised, and those engaging in human, non-mechanized forms of***
397 　　　　***transport.***

12

398   In support of these meta-principles, the following is a discussion of a series of more
399 focused principles for consideration, organized into 1) Livability Ethic Principles, and 2)
400 Livability Process Principles.

401 *Livability Ethic Principle 1: More than Surviving, Livability Deals with a Thriving Quality of the*
402 *Human Experience*
403 At its core, livability is about the quality of the human experience. Lynch's vitality dimension of
404 performance *(40)* and Maslow's *Hierarchy of Needs(41)* can be helpful in developing our
405 understanding of this. But livability should not limit its focus to basic needs. Livability should
406 promote thriving—not just surviving—and thus explicitly acknowledging the importance of joy,
407 happiness, community pride, spiritual uplift, self-actualization, comfort, rest, rejuvenation, etc.

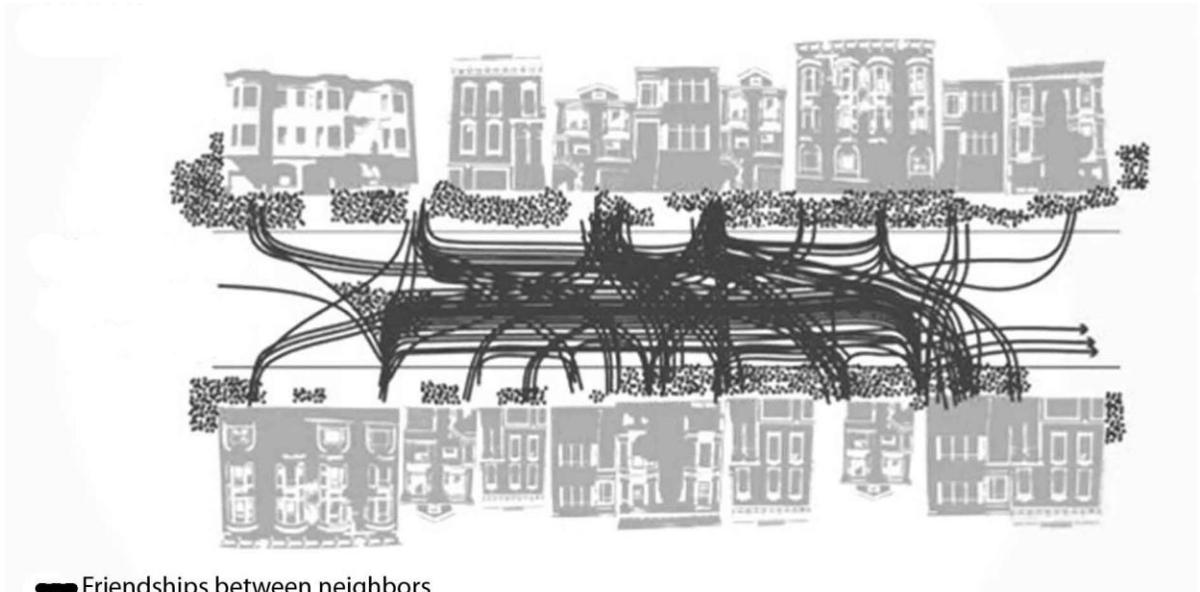408 *Livability Ethic Principle 2: Accessibility & Exchanges over Mobility & Speed*
409 *Accessibility* emerges as a more important performance measure than *mobility* or *speed.*
410 Livability is built upon easy access and exchanges related to such things as employment,
411 knowledge, social networking, and nutrition. It is also the ability to thrive in place, as opposed to
412 being in constant motion (unless we so choose). Therefore, livability should also include aspects
413 of our lives that lead to rest and rejuvenation, as well as our ability to share knowledge and
414 sustenance—the keys to building social community and social capital. It should be noted that
415 advances in telecommunications and social networking may be playing an important role in
416 improving such access and exchanges, while not requiring us to rely on mobility and speed.

417 *Livability Ethic Principle 3: Restore Choices Lost to Forced Adaptation*
418 People adapt and retreat, often subconsciously, from poor environmental conditions, as shown in
419 the graphics below from Donald Appleyard's research on street livability where neighborhood
420 social networks dramatically diminish as traffic increases *(2)*. Thus to achieve livability,
421 *stewards* must be able to observe, uncover, and present to *constituents* how they may be
422 retreating from poor environmental conditions necessary for thriving livability. Helping people
423 realize the unlivable conditions around them, as well as providing the tools and measures
424 necessary to make things better, are essential for empowering communities (especially
425 disadvantaged ones) to achieve more equitable levels of livability for themselves.
426   The images in Figure 2 from Appleyard's *Livable Streets* show how increases in traffic
427 dramatically disrupt the ability of people to build important social networks and capital along
428 their neighborhood streets.
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Friendships between neighbors
• Where people gather on street edge

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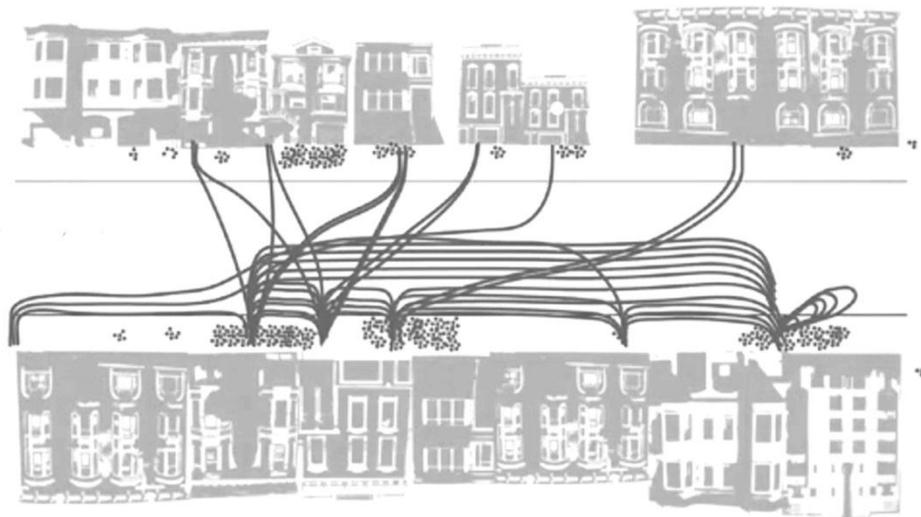
Figure 2. Social Interactions Between Neighbors on Low (Top) and High Traffic Volume Streets

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Livability Ethic Principle 4: Value the Needs of Society's Most Vulnerable

Extra effort should be made to address the needs of society's most vulnerable—the poor, the young, the elderly, and those with disabilities. As we are dealing specifically with transportation, this should include those who travel and experience the world in more exposed and vulnerable human states of being, such as pedestrians and bicyclists, who openly experience the world around them, presenting far fewer impacts on others, and are better able to engage in important exchanges necessary to build social capital around physical space, such as simply starting a conversation with a neighbor. Drivers, on the other hand, who travel inside protective, insulating and isolating vehicular enclosures, shut off their capacity for any such spontaneous social interactions while simultaneously generating large impacts on those around them.

In sum, a person traveling by a certain mode either works in concert (match) or at odds (mismatch) with the surrounding community context, as well as other travelers and those who share the street environment. How we might be able to mediate these conflicts is more fully addressed in our below discussion about "Livability Process Principle 5: Mediate Conflicts in and Around Public Spaces to Optimize Community Livability".

Livability Process Principles

Our discussion of a selection of ethical principles of livability suggests the following set of associated *livability process principles* should also be considered:

Livability Process Principle 1: Do the Least Harm Possible

We should consider actions with the fewest negative impacts on quality of life satisfaction. For example, there is little evidence that building sidewalks will be harmful to the collective quality of a community's livability. Stewards and constituents both need to understand that quality of life pursuits that degrade the livability opportunities of others need to be regulated, mitigated or discouraged through democratic and market processes.

Livability Process Principle 2: Think Broadly

While we may be forced to limit our focus on aspects in around the public realm, we must recognize that *livability* is related to broader, non-physical systems that include access to economic opportunity, provision of affordable housing, health care, recreation, community & family life, just to name a few. The breadth of livability concerns calls for comprehensive and integrated thinking about these during the planning process.

Livability Process Principle 3: Coordinate Transportation and Land Use for Accessibility

As livability depends on easy access to opportunities while generating the fewest negative externalities possible, transportation and land use coordination is central for facilitating the placement of important opportunities that can be readily accessed by an array of low-impact transport choices. Negative social impacts can be remedied by transportation and land use coordination because it recognizes that access must not only be about movement to and through, but also about access to local opportunities.

Livability Process Principle 4: Prioritize Advocacy and Inclusion

To understand and achieve livability we not only need to uncover where community cohesiveness has been undermined, but work as advocates to reach out and bring people to the table when they are displaced, disenfranchised, and unable to speak for themselves in public forums. As shown in Figure 2, people can be displaced by the impacts of traffic, freeways,

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477 redevelopment, natural disasters, and more. Therefore, we must ask, who is missing? Who is
478 being excluded? In response, we then need to find ways to bring these constituents back into the
479 discussion and/or advocate for their voice in deliberations about future plans.

480 *Livability Process Principle 5: Mediate Conflicts in and Around Public Spaces to Optimize*
481 *Community Livability*
482 Improving one's own livability should not unduly degrade the livability pursuits of others.
483 Because of the power imbalances conflicts emerge when individuals pursue a better quality of
484 life, especially in transportation as travel creates externalities that often touch on the lives' of
485 others. Planning and designing for livability suggests we strive to explicitly address and mediate
486 these conflicts. One possible approach is to employ what we have termed a Livability Trip
487 Profile (LTPs) mediation framework.
488   Building on the intra-modal conflict discussed in Livability Ethic Principle 4 (*Value the*
489 *Needs of Society's Most Vulnerable*), The LTP framework operates on the idea that a person
490 traveling by a certain mode either works in concert (match) or at odds (mismatch) with the
491 surrounding community context, and other travelers. For example, a car traveling down a
492 pedestrian-oriented neighborhood street is greatly mismatched with the surrounding community
493 context (including residents and pedestrians), negatively impacting it with air and noise
494 pollution, and threatening the personal safety of other travelers. Conversely, pedestrians are
495 better matched to this neighborhood context, on balance generating positive community benefits
496 such as the ability to build important social capital, bolster community security by providing
497 "eyes on the street," and enhancing the "safety in numbers" moderating influence on driver
498 behavior. It is our intention to build on the LTP framework in future publications, using it as a
499 foundation for developing a new class of transportation and land use planning metrics.

500 **CONCLUSION**
501   With better-defined livability ethics, we can make better decisions and achieve optimal
502 levels of livability for society as a whole. In summary, livability ethics should be employed to: 1)
503 create context-sensitive and inclusive processes to guide the optimization of a community's
504 livability; 2) help understand what is important to measure and analyze in current conditions and
505 future scenarios; and 3) screen, prioritize, and mediate strategies in support of increasing a
506 diverse and complementary set of choices and opportunities for greater community quality of life
507 satisfaction.
508   A key challenge going forward will be the difficulty in knowing how well we are doing
509 since measuring individual quality of life satisfaction is complex and resource prohibitive.
510 Therefore, stewards working to enhance livability need to focus on enhancing and measuring
511 livability opportunities, with the assumption that this will lead to enhanced quality of life
512 satisfaction. The livability ethics and process principles outlined herein provide a conceptual
513 bridge between livability opportunities, quality of life satisfaction, and the strategies and actions
514 stewards can employ to enhance both and therefore, provides support for this assumption.
515   Nevertheless, for all the conflicts, power imbalances, and the need for impact mediation
516 outlined above, professionals working in the public interest can use livability ethics to prioritize
517 planning and policy strategies that achieve a balanced and mutually-reinforcing set of livability
518 opportunities for individuals and communities to maintain and improve their quality of life,
519 together.
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