**Table 1.** Supplementary BEC Framework Table: Operational variables/measures, actionable instruments, and change agents are summarized by the built environment levels.

|  |  |
| --- | --- |
| **Physical Built Environment** | **Regulatory Systems** |
| **Level** | **Elements** | **Variables/measures** | **Instruments of change/intervention** | **Change agents** | **Rates of change** |  |
| **Physical Form** | **Use** | **Physical change** | **Change in land use** |
| **1** | Room | Size, windows, doors, ceilings, floors, materials | Bedroom, living room, kitchen, bathroom, staircase, elevator, office, store | A. Building codes (physical form, materials, ventilation, access) | Health and safety, architectural design and urban planning, technology | Medium (1-5 year) | NA |
| **2** | Building | Number of rooms (if ≥1 go to level 1), garden, size, height | House, apartment house, office building, retail building, institutional building, service building, decorative garden, vegetable garden | A. Building codesB. Zoning and land use codes (physical form, materials, access) | Health and safety, building and architectural design, urban planning, technology | Medium (1-5 year) | NA |
| **3** | Lot/parcel | Number of buildings + ancillary unbuilt spaces (if ≥1 go to level 2) | Any and all of the level 2 above | B. Zoning and land use zoning codes (physical form and land use) | Develop-ers, health and safety, building and architectural design, urban planning, technology | Medium to low (5-20 year) | Low (20 year) |
| Parcel size | Dominant use (see level 2 above) |
| Open space + related facilities | Park, natural preserve, sports facility | Parks and recreation |
| **4** | Streets / blocks | Block size, street width, sidewalks, bicycle lanes, trails, trees, traffic signalization, lighting, water, sewers | Motor-vehicles only, mixed motor-vehicles and people transit volumes, speeds | B. Zoning and land use zoning codesC. Street standards and transportation system | Transpor-tation engineering and planning, technology | Very low | Low |
| **5** | Neighbor-hood / district | Aggregation of 1 to 4 | Dominant land use (e.g., residential, commercial, institutional, mixed) | D. Overlay zones | Health and safety, urban planning | Very low | Very low |
| **6** | City / county | Aggregation of 5 | NA | D. Overlay zonesE. Strategic planning (centers/nodes and networks) | Urban planning | Very low | Very low |
| **7** | Region | Aggregation of 6 | NA | D. Overlay zonesE. Strategic planning (centers/nodes and networks) | Urban planning | Very low | Very low |

**Table 2.** Supplementary BEC Framework Table: Selected health issues are related to built environment exposure and individual responses and behaviors.

|  |  |  |
| --- | --- | --- |
| **Exposure** | **Individual Response / Behaviors** | **Health issue / Disease** |
| Material toxicity, Indoor environmental quality, light, ventilation, noise | StressSocial supportPoor Hygiene | Mental Health / DepressionRespiratory DiseaseCancerInfectious Diseases |
| Privacy, crowding | StressSocial supportPoor HygieneSocial connection to others | Mental Health / DepressionRespiratory DiseaseInfectious Diseases |
| Socio-demographic balance | StressSocial connection to others | Mental Health / Depression |
| Safety | Social stressRisk-taking behavior | Mental health / DepressionTrauma / InjuryCardiometabolic Disease / Obesity |
| Walkable environments, Choices for active transportation | Physical activitySocial connection to others | Mental Health / DepressionCardiometabolic Disease / ObesityCancer |
| Choice of recreation and leisure facilities, food sources, other services and amenities | Physical activitySocial connection to others | Cardiometabolic Disease / ObesityMental Health / DepressionCancer |
| Outdoor environmental quality, air, water, soil, noise | Physical activityStress | Cardiometabolic Disease / ObesityRespiratory DiseaseMental Health / DepressionCancer |