The Role of Innovation in Systems Change

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Abstract

The Tamarack Institute's adaptation of the Multi-Level Perspective Framework (MLP) offers a way for social innovators to visualize comprehensive change strategies within complex environments in an accessible way. The MLP allows collaborative groups to see their mutually reinforcing activities – the dynamic interaction of activities and outcomes at multiple levels – and understand how their efforts cumulate over time. It offers a way to zoom in and out, focus on leverage points, and share the narrative of a complex change journey.

Introduction

Getting to an impact goal, like ending homelessness in a community, increasing academic achievement, reducing GHG emissions, or creating a healthy and sustainable food system, requires cumulative change at different levels and different scales.

Innovative ideas play an important role in pushing a system to a place that wouldn't be possible by incremental program improvements or increased funding alone. Innovation allows us to change the rules of the game rather than solely improving our effectiveness within the existing rules. Often though, a good idea or a successful pilot occurs and then doesn't result in the systems changes we hoped for.

When we take an ecosystem view and pair an innovative idea with activities at other levels and scales, the process of creating change will be more effective. These actions can build off each other, create pressure on the system, and become leverage points for change. These mutually reinforcing actions are essential to get to impact.

The Tamarack Institute develops and supports collaborative strategies that engage citizens and institutions to solve major community issues across Canada and beyond. When working with communities, we have found it beneficial to visualize the system we are trying to change by mapping the work happening at different levels.

For this visualization, we have been using our adaptation of the Geels Multi-Level Perspective Framework.[1] Our adaptation shows the relationship between five different levels of action:

Navigating the landscape (paying attention to influential windows); shifting awareness, and building the will to act; changing systems (adjusting the policies, structures, processes, resource flows, power relationships and day to day practices); supporting niche innovations; and strengthening leadership and capacity. After mapping actions, we can zoom in and out to see what opportunities already exist and identify potential leverage points for impactful change. In this article, we share how Tamarack adapted and used the Multi-Level Perspective framework with collaborative groups for strategic planning and evaluating impact within complex environments. We also identify patterns across communities in how innovations can spawn action at other levels and create opportunities for larger systems shifts.

The Challenge of Thinking Systematically

Social innovators firmly have their sights on 'systems innovation and change.' Whereas their earlier efforts focused on creating novel new programs and services, they have increasingly turned their attention to addressing the systems that create problematic outcomes in the first place and continue to reproduce and hold them in place.

Along with this growing commitment to the idea of systems change, there has been a concurrent effort to develop frameworks and methods to help changemakers understand what that actually looks like in practice.

Some of the most important work has been to demystify what we mean by systems. The field has rediscovered the pioneering work by Donella Meadows on her '10 leverage' points for systems change[2] and then built upon that foundation with new frameworks and models. This includes the Foundation Strategies Group's wildly popular six 'conditions' of systems change,[3] Westley et al.'s 'attributes' of systems change,[4] Leadbetter and Winhall's elegantly simple four 'keys' of system change,[5] and even the classic iceberg model that distinguishes between the structures and mental models underlying system behaviors and results.[6]

These are powerful contributions that have done much to help people understand 'what' they might change in systems. However, these elements offer little insight into the dynamics of 'how' systems change and what they can do to ensure that systems changes have the positive impact they seek.

The Multi-Level Perspective Framework

This is where Multi-Level Perspective (MLP) framework comes in. It was developed by researchers to explain how socio-technological solutions can help societies transition toward a more sustainable future. It was then popularized by Frank Geels.[7]

The basic idea of the MLP is that the transition process happens through the interaction of activities at three different levels.

The first is the level of niche. This is the space where novel models, routines and practice emerge through highly protected spaces (e.g., pilot projects, labs, incubators) and more widespread spontaneous grassroots experimentation. Niche-level work offers a place for innovators to develop and test new ideas, raise awareness of an issue, and exemplify what the future might look like.

The second level is the regime. This contains all the elements of the systems captured in many diverse ways: e.g., structures, rules, policies, and relationships. Changes in the regime are often slow and incremental, but they can be accelerated by pressure from events in the landscape and niche levels.

Landscapes—the third level—create the much larger 'container' or 'structure' in which smaller systems operate. These include a constellation of elements, such as political economic factors (e.g., international finance, commodity prices, trade agreements, cross-country coalitions), and environmental shifts (e.g., biodiversity, climate change). The landscape both restricts how much change can happen at the regime and niche level and is often slow to change. However, it can also unlock opportunities for changes at both levels through longer-term trends (e.g., concern about global warming) and sudden crises and disruptions (e.g., pandemics, wars, environmental disasters).

While the MLP framework offers many insights into how transitions happen, two are especially powerful for social innovators eager to tackle big, gnarly, stubborn, complex challenges. First is the fact that it is the dynamic interaction between activities and outcomes at these three levels that 'drives' transition processes. Take, for instance, the case of the electric battery, a critical component of hybrid and electric cars. This first-class example of a niche innovation represents a much-hoped-for game-changing contribution to reducing global GHG emissions. However, for battery-charged cars to be widely adopted by consumers, they must be able to charge their cars at converted gas stations or even in their own garages. This will require multiple systems changes, such as the energy companies' retail business models and gas station infrastructure and in how power grids are designed and managed for residential and commercial facilities. While unlocking these systems requires an enormous amount of ingenuity, investment, and time—and therefore results in a high level of resistance by incumbent system actors—the growing support for low-carbon transportation, fueled by concerns of climate change and unstable oil and gas prices, creates powerful pressure and incentive for them to overcome their inertia.

Why is this important? It makes it clear that changemakers hoping to make change must focus on encouraging mutually reinforcing activities and outcomes across these different scales. The second key feature is that systems don't necessarily change overnight, through a big bang or a dramatic tipping point event (even though these can be helpful). Rather, they transition over time through an accumulation of smaller, mutually reinforcing changes.

An effort to restructure local power grids to accommodate residential charging of car batteries, for example, requires an entirely new round of changemaking efforts. It may encourage local activists to experiment with various types of locally owned energy co-operatives or neighborhood-based community enterprises, which in turn prompts financial institutions to consider a new line of lending. Municipal leaders will require new building codes and land use regulations while construction companies and do-it-yourself stores will create—and respond to—a whole new micro-market on retrofitting garages, with new products and services.

The work of systems change, therefore, is not a clean leap from a current system towards an ideal new one. Instead, it's an emergent process comprised of iteration upon iteration of time-limited change efforts, which, taken together, represent a longer-term process of transition. There are plenty of critiques of the MLP. Most of them aimed at all the things it does not capture about the transition process: including how to develop and scale niche innovations, how to deal with the resistance of system incumbents keen to maintain the status quo, and concerns about how to deal with idiosyncratic transition processes over different contexts and adjustment sectors.[8]

Yet, if the MLP only does a few things well (and we think it's more than a few), it's that it offers a more sophisticated-yet-still-accessible view of the dynamic nature of systems transition and change.

The Adaptation of the Multi-Level Perspective for Complex Social Issues

Unsurprisingly, those eager to encourage social innovators to be as strategic as possible have advocated that they employ the MLP to guide how they think about and approach their systems change work.[9] [10] [11]

The way the Tamarack Institute uses the MLP goes one step further. Like all good frameworks, the MLP is easily adaptable by social innovators eager to adjust it to reflect their unique goals and contexts better. Tamarack, therefore, 'adapted an adaptation' of the MLP to provide communities working on complex social issues like poverty, homelessness, and just climate transitions with even more granular guidance on their efforts.[12]
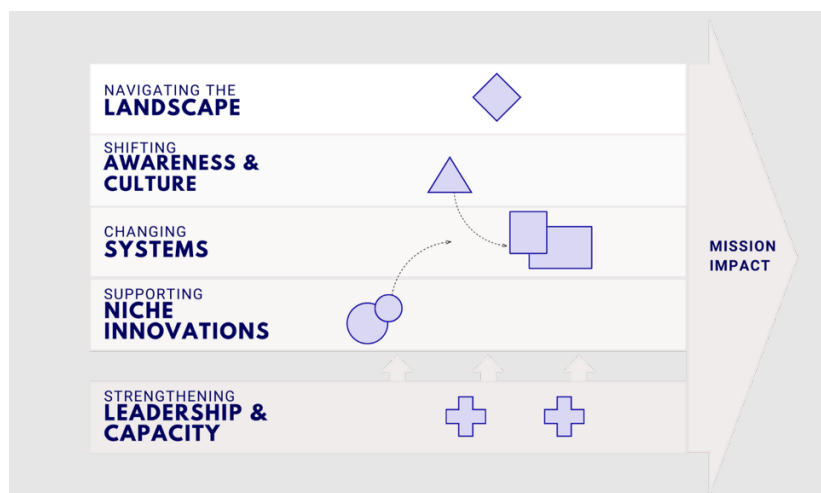
Figure 1: Tamarack Institute Adaptation of the Multi-Level Perspective Framework

The Tamarack adaptation of the MLP includes three adjustments:

Naming the Impact Goal
Tamarack's iteration challenges social innovators to describe the Impact Goal they seek. This is typically some population-level change (e.g., increasing high school graduation rates across a city or region). It's important for groups to be as clear as they can about the challenge they are trying to address, what success might look like, and—if possible—the level of ambition for the scale and pace of change (e.g., double high school graduation rates by 2025). This guides their strategy, informs their evaluation, and makes it easier to communicate what and how they are trying to achieve between themselves and others.

Looking at Five Levels of Work

The adapted framework encourages changemakers to think about, plan, and evaluate a more comprehensive approach to achieve that goal. This includes attending to working across five levels of work:

- **Navigating Landscape**: constantly monitoring, analyzing, and adapting to the opportunities and barriers for action created by the larger political, economic, and social context.
- **Shifting Awareness and Culture**: raising the awareness of the public and influential leaders about an issue and why it deserves attention and even deeper work on shifting societal paradigms to 'disrupt' and 're-orient' societies' cultures in more fundamental ways (e.g., centering eco-logical health and climate).
- **Changing Systems**: adjusting the policies, structures, processes, resource flows, power relationships, and day-to-day practices in a way that encourages widespread changes in the

behavior of people and organizations that align with (e.g., schools dialing back zero tolerance policies which often leave at-risk students out in the cold).

- **Supporting Niche innovations**: supporting the development, testing, and – if appropriate – sustaining and scaling of novel solutions (e.g., a new wrap-around program that provides students with complex needs to develop the resiliency they need to succeed at school and home).
- **Strengthening leadership and capacity**: increasing social innovators' networks, resources, skills, and sense of agency to 'drive' the change process through ongoing and iterative cycles of planning, implementation, and evaluation.

The inclusion of these additional levels offers an even sharper understanding of the multi-level, transitional nature of social innovation and change processes. The reason the Tamarack adaptation of the MLP distinguishes the more tangible elements of systems (e.g., structures, policies, relationships, authority) and the deeper intangible elements in which they are embedded (e.g., culture, paradigms, worldviews, beliefs, values, and narratives), is simply because many social innovators invest an extraordinary amount of effort raising the public awareness of an issue and trying to change the deeper societal narratives. Transforming mainstream systems, therefore, requires disrupting and changing the deeper cultural codes in which they are embedded.

Adding Leadership & Capacity

The capacity of a local group to engage in systems work is the one factor they control. This typically—but not always—evolves over time as they 'learn by doing' and develop new skills, relationships, and confidence with each iteration of their work. Increased capacity is both an outcome and a key factor to consider when developing strategy and assessing progress at other scales.

The Tamarack Experience

In practice, Tamarack uses the MLP at three key points in a large-scale change initiative.

1. When a multi-sector collaborative is defining its population-level goal and theory of change: At this stage, collaborative groups seek to define a robust, cross-scale strategy. Part of this work is to gain greater clarity into the existing efforts underway and better understand what assets and initiatives can be utilized, amplified, and joined up with and where the new opportunities may be.
2. At sticking points in a change journey: We use the MLP as a way to strategically frame and understand what to do next if change efforts seem to be stalling. We bring multi-sector leaders including those with lived/living experience together to take stock of the current work and share their insights for why the work may be getting stuck and what opportunities they see at other levels.
3. To communicate impact through reporting: Part of Tamarack's support provided to member communities includes coaching them through the process to evaluate and

communicate their impact. This is often done through annual or bi-annual reports and part of the challenge of complex systems change is to account for the contributions your collective efforts have made. We use the MLP to better understand the contribution of various actions and the relationship between them and as a storyboard for collaboratives to tell the narrative of their efforts.

Insights from the Tamarack Experience

The use of a modified MLP framework to support the work of community-wide efforts to address complex issues reaffirms the two powerful insights of the original framework: (1) systems change is driven by the dynamic interaction of activities and outcomes at multiple levels, and (2) it takes an accumulation of changes across all these levels of overtime to yield 'changed' systems and, hopefully, deep, and durable impact.

It also reveals several very practical yet highly significant implications for social innovators. Three stand out:

1. Zoom In and Out

The first is the necessity for groups to constantly zoom in and zoom out to understand where they might make a difference. The question they must answer is not, "Is this a good thing to do?" but rather, "What is going on in the larger context in which we work (e.g., trends in public awareness, opening, and closing of policy windows, spontaneous experiments by disruptive innovators)? What needs to be done to amplify and accelerate progress on this issue? Who else is working on this, and what are they doing? Given all that, where might our group make a unique and biggest contribution to helping systems transition?"

2. Focus on Leverage Points

The second insight is that while social innovators must develop powerful and ambitious long-term visions (e.g., end homelessness) and objectives (e.g., make a living wage a household word), they must find ways to 'shrink the change' into shorter periods to make their efforts more manageable, focused, and tangible. We've seen these organized in a variety of different ways—such as five-year strategies, one-year campaigns, or even three-month sprints. The idea is the same: maintain a line of sight to the impact that they want to make and accept the reality that their job is to make 'some progress' towards getting there within the time and influence they have, creating the conditions for additional bursts forward in the future by those who come after them.

3. Share the Narrative that Communicates, Not Reduces, Complexity

The third insight is that a group cannot reduce the effort to track its progress, particularly population-level impact, to a few simple metrics. Some elements of systems transition are difficult—even practically impossible—to 'measure' (e.g., a local economic development agency

and a chamber of commerce in a conservative business-oriented city showing a growing interest in supporting policies that encourage employers to pay a living wage). And even when a group finds a way to quantify a change in something, it must still interpret what that change means (e.g., So, why is the support from these two institutions significant? To what extent did we contribute to this shift in attitude? Is it good, bad or both?). Therefore, capturing progress in systems transition and change requires groups to employ qualitative and quantitative data (aka mixed methods) and very good processes to interpret and make sense of whatever change they can track. The MLP offers a concise way to capture this narrative.

What This Looks Like in Practice

When we look at the dynamic interaction between levels, zoom in and out, and zero in on leverage points after mapping existing efforts on the MLP, we see three common archetypical flows:

1. **Niche innovations trying to break through to systems change and awareness.**
Saint John, New Brunswick, is a caring, community-oriented historic port city experiencing a diversification of its labour force. Saint John is also a city characterized by high inequality. There exists both sizeable wealth and sizeable poverty, with most people living in poverty concentrated in five core neighbourhoods. When their collective poverty reduction efforts began, child poverty was as high as 88% in some neighbourhoods. Data and stories revealed that poverty in the city is generational. People grow up in poverty, experience poverty as adults, and raise children that grow up in poverty.

20 years into their community-wide efforts to break the cycle of generational poverty, one of the community's biggest successes has been increasing literacy rates of Grade 3 students in the five core neighbourhoods to par with the district average, effectively closing the education-achievement gap between kids who come from poverty and kids who come from plenty.

Their success has resulted from developing and scaling innovative pilot projects in a gradual, iterative way—all building towards increasing Grade 3 literacy rates of low-income students. The community, committed to an action-reflection learning approach, invested in a series of educational enrichment interventions for children, youth, and their parents.

They began with the challenge of extraordinarily high teen pregnancy rates and sought to solve the issue. They supported and followed the journey of a cohort of young teen moms to finish high school. When a new need was discovered amongst the mothers, they worked together to create a new intervention to help address it. For instance, they started by offering transitional group housing, parental guidance, and support to address family violence and addictions; when they saw that mothers needed child support to focus, they added a daycare.

As part of their reflections, the community then began to understand that the children were starting kindergarten less prepared than their peers in the region and were more likely to drop out

of high school. They then undertook the goal of increasing literacy and high school completion rates.

Pilot interventions for children in the five core neighbourhoods have included: establishing early childhood hubs that integrate education and health services for families; mentorship of elementary students by university students, business people, non-profits, and residents; access to free sports and recreation programs; supplying high-quality books to children and their families, training teachers and other service providers to use a trauma-informed approach, and providing nutritious meals and snacks in school.

The build-up of their learning and efforts with each intervention propelled the program "When Children Succeed" to success when it was launched in 2018.
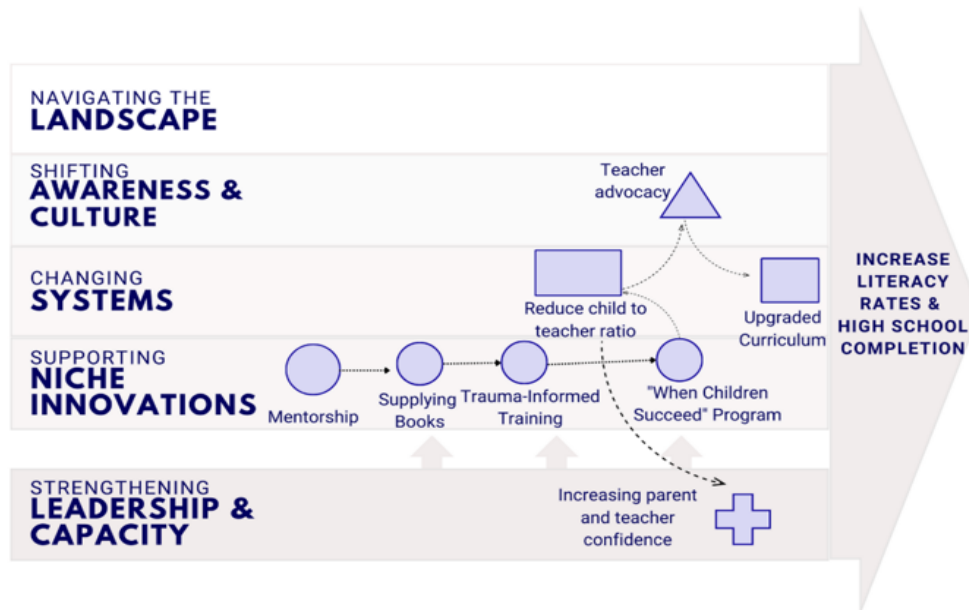

Figure 2: Saint Johns, New Brunswick MLP on increasing literacy rates & high school completion.

Students from core neighbourhoods continued to experience a stubborn gap in early literacy rates with the regional average when they hired additional educators to lower the teacher-student classroom ratio. With 12 students per teacher instead of the standard 21 students prior to COVID-19, teachers were able to form more authentic relationships with children and feel confident because they were able to follow their learning journeys more closely and adapt to their needs quickly; teachers engaged more with parents, and parents reported being more confident in their children's learning journey; parents were engaged more in school events, and student absenteeism decreased. Teachers were also better able to advocate for what students needed, such as an upgraded curriculum—which the province changed—and a Speech-Language Pathologist ¾, who was hired by the collective.

In three years, Grade 3 literacy rates across the five core neighbourhood schools rose to meet the district average.

This isn't the end. The measured success of "When Children Succeed" has caught the attention of the provincial government, and the project leads in Saint John have successfully made the case to the Government of New Brunswick to assume the funding of the project for two more years. They will continue piloting it in this time with the intent of rolling out a differential funding model to K-2 students in schools with high concentrations of poverty across New Brunswick. This will support schools all over the province to provide children with greater need, greater and more tailored supports to their learning journeys.

2. **Direct pushes on systems change (e.g., policy proposals), that create ripple effects in increased public awareness and more 'space' for innovation**

The City of Windsor and County of Essex are urban-rural mixed regions in Southern Ontario. The region consists of one single-tier and seven lower-tier municipalities, with each municipality being unique and ranging greatly in degree of poverty, crime, and safety.[13]

In 2018, the Government of Ontario mandated the use of a Community Safety and Wellbeing Framework for every municipality in the province. Their goal is to bring all service agencies (public and non-profit) in each community together to move mental health and wellbeing investments upstream from emergency police response towards social development.

The City and County were seeing an increase in the number of community collaboratives and municipal task forces in addressing related issues, but in silos, so they used the new framework as an opportunity to engage the community in co-creating and co-owning an umbrella Community Safety and Wellbeing Plan.

The municipalities took on the role of convenor, bringing many municipal departments and community partners together to unpack the complexity of poverty, safety, and health; and identify root causes and systems changes needed to foster well-being.
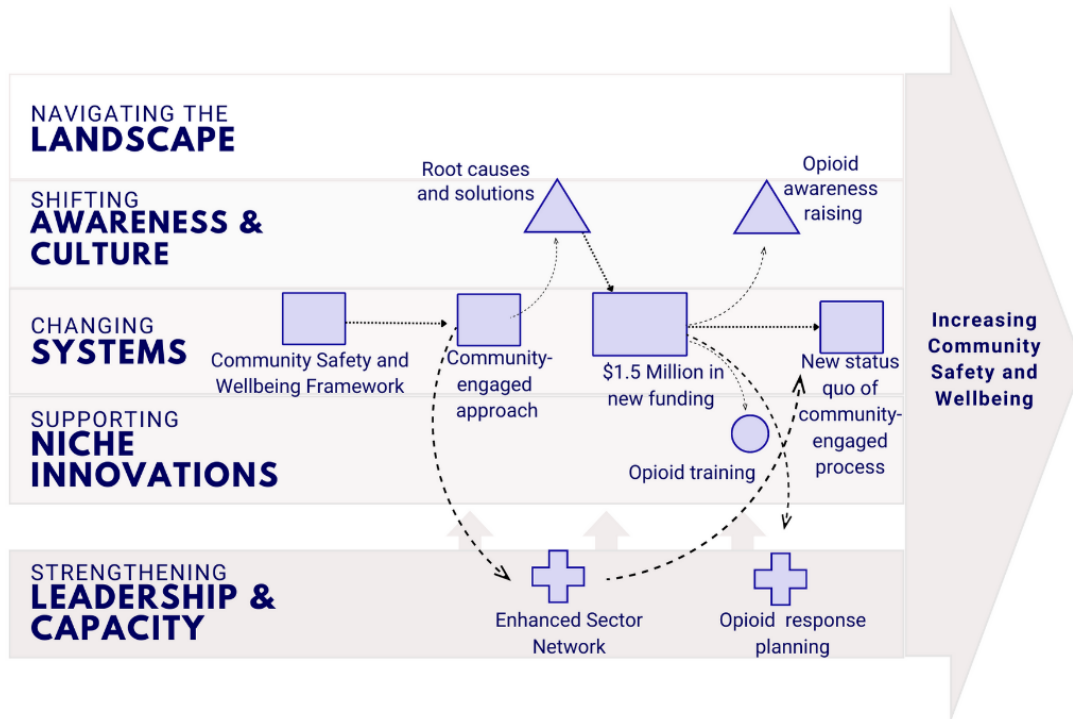
Figure 3: City of Windsor and County of Essex MLP on leveraging the Community Safety & Wellbeing Framework to reduce poverty, increase safety and health, and foster wellbeing.

By virtue of adopting a community-wide community-owned process, they created several systems changes that became part of the Community Safety and Wellbeing Plan. These outcomes include:

- New partnerships and power dynamics: They centered the voice of lived/living experience and engaged them at every step of the work. The new Enhanced Sector Network is comprised of historically underrepresented community groups who act as context experts, working with the Leadership Table to do sensemaking of the data and develop and implement the plan's activities.
- New partnerships and resource flows. Partners who had never collaborated before have submitted collaborative grant applications and have been successful in securing over $1.5 Million in new funding to address opioid and substance use through planning, education, and training.
- New practices. The success of the community-engaged process used by the Community Safety and Wellbeing Team is being shared throughout the City of Windsor and County of Essex departments as best practice for future consultations.

Windsor-Essex's plan is a good example to other local governments of the type of systems change that can occur when municipalities commit their resources and influence to champion issues that the community is primed to advance.

3. **Pushing hard on awareness-building outcomes to create the conditions for policy, systems, and niche innovation change.**

We see this example in Canmore, a beautiful town in Alberta's Rocky Mountains known for skiing, hiking, and mountain biking, and also with many people facing issues related to lack of affordability.

In 2016, building upon the living wage movement happening across Canada, the Town of Canmore invested $10k for two years to support the development of a living wage calculation. At this time, there was no agreed-upon methodology for a living wage calculation.

The result of the calculation was a living wage of $ $32.75, which is the amount someone needs to earn per hour to afford life in Canmore. Knowing this calculation was helpful in providing evidence for the affordability crisis but also offered a conundrum—there was no way employers would be able to pay such a wage. So instead, the calculator was used to build awareness of the issue and explore ways to increase affordability.

By plugging in different variables and supports, the calculator helped the municipality and community organizations understand the impact on how all systems, including employee benefit plans, government tax, and benefit initiatives, and community programs, can work together to create an affordable community.

This led to more awareness about how to increase affordability which made a case for enhancements to specific supports – like free public transportation. In addition to policy changes in Canmore, the increased awareness resulted in an investment in 2018 to scale the living wage network across Alberta. Increased funding strengthened the capacity of the work and enabled the network to hire a coordinator who worked to develop a living wage calculator with a standardized methodology for the province. Having a calculator that any community in Alberta could use continued the reinforcing cycle of more awareness leading to systems shifts as more communities joined the movement.
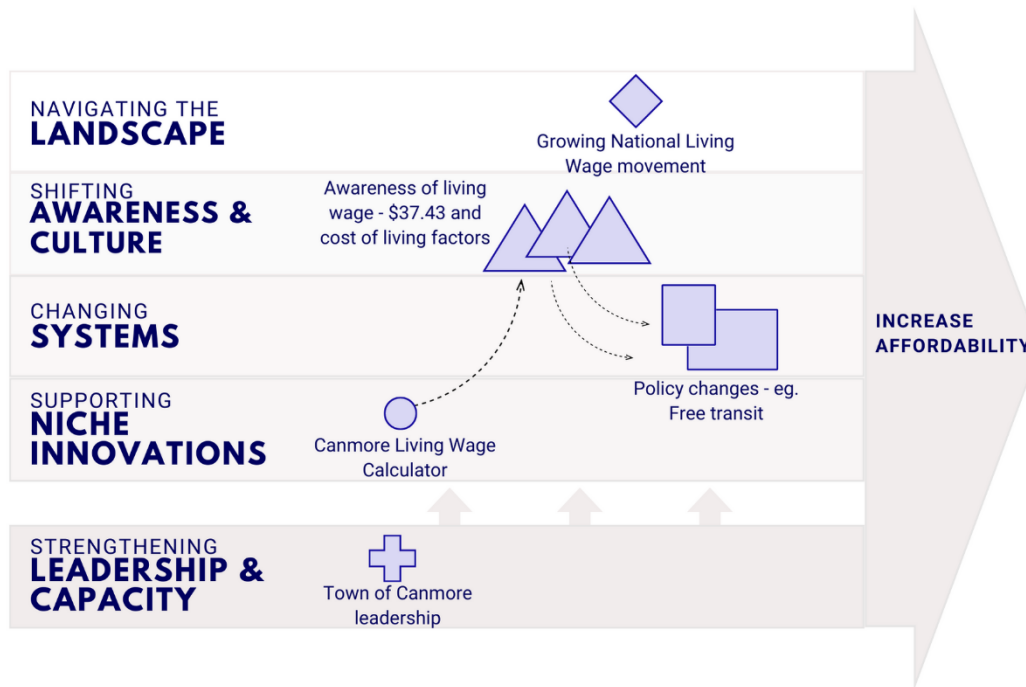
Figure 4: Town of Canmore MLP on increasing affordability.

Closing

Tamarack's adaptation of the Multi-Level Perspective Framework offers a way for social innovators to visualize comprehensive change strategies in an accessible way. The MLP allows collaboratives to see their mutually reinforcing activities – the dynamic interaction of activities and outcomes at multiple levels – and understand how their efforts cumulate over time. It offers a way to zoom in and out, focus on leverage points, and share the narrative of a complex change journey.

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