

# North Dakota New Development Calculator (ND2C)

## Walkthrough, Notes, & FAQs

The purpose of the Advanced ND2C is to give communities greater flexibility and accuracy in estimating the fiscal impact of new development. To accomplish this, the user must input more thorough information about their community's or project's tax revenue and costs. The general principles that apply to the regular version of the ND2C still apply. This is still a conservative estimate of costs and should be used as a starting point to discuss the effect of a potential development on a city's finances.

### Part 1: Fill out Project and Land Development Details

#### Step 1: Input the Project Details

##### Input Variables

###### Project Details

	Total Amount	Unit
Single-Family Residential	100	Housing Unit
Single-Family Attached/Townhomes	20	Housing Unit
Multi-Family Residential	10	Housing Unit
Office	7	1,000 SF GFA
Retail and Services	5	1,000 SF GFA
Restaurant	10	1,000 SF GFA
Hotel	-	1,000 SF GFA
Industrial	-	1,000 SF GFA

##### Enter:

- The number of units of a proposed development
- The amount of square footage of non-residential uses

#### Step 2: Input the Proposed Land Development Details

##### Proposed Land Development

Area of Development	67.00	Acres
New Arterial Street	1,000	Linear feet of roadway
New Neighborhood Street	8,000	Linear feet of roadway
New Civic Street		Linear feet of roadway
New Water Mains, Local	8,000	Linear feet of pipe
New Water Mains, Regional	1,000	Linear feet of pipe
New Sanitary Sewer Mains, Local	8,000	Linear feet of pipe
New Sanitary Sewer Mains, Regional	1,000	Linear feet of pipe
New Stormwater System, Local	8,000	Linear feet of pipe
New Stormwater System, Regional	Yes	Based on acreage
Direct Costs to City for Development	\$ -	Dollars
Direct Revenue to City for Development	\$ -	Dollars

- The amount of new infrastructure by unit (linear feet, acres, dollars)
- Direct costs: All one-time costs associated with development (not including staff time)
- Direct revenue: Non-tax revenue (i.e. permitting fees)
- If there will be a new regional stormwater system, toggle the switch to "Yes"

#### Step 3: Fill in Other Miscellaneous Details

##### Other Details

Build-Out Timeline  Years

- How long the project will take to complete

## Part 2: Fill Out the City-Specific Cost and Revenue Value Sheet

### Step 1: Turn to the User Inputs tab



### Step 2: Follow the Color-Coded Guide to Fill in Fields

<b>Input</b>	An Input field is a value like a percentage that supplies back-end calculations in the model. <b>Fill these in!</b>
<b>Used Value</b>	A Used Field is a final value for the model, like capital depreciation rates or sales tax revenue per use. <b>Fill these in!</b>
<b>Calculated Value</b>	A Calculated Value field is a final value for the model, but it's the product of a formula based on previous inputs and <b>requires no input from the user.</b>

### Step 3: Fill in the Required Fields

For figures like the mill levy, taxable value ratio, etc., use your community's standard rate. For other figures like the expected income of new residents or home values, you can either use the community's average or a best guess for the specific development. The ND2C Baseline Assumptions (for low, medium, and high) are listed to the right. This provides a reference point if you are unsure about which value to use.

A Calculated Value will display 0 until you input all required values. The formulas are visible so you can see which values you still have to enter. You only have to fill in values relevant to the project (i.e. don't worry about filling in the industrial sales tax rate if the project only includes single family homes).

Below are instructions for which fields to fill in to complete the ND2C's calculations broken down by category. Where relevant, we indicate whether this field only applies to residential or non-residential development.

#### For Infrastructure:

- Enter the Street Maintenance Value
- Enter Infrastructure Capital Depreciation Rate for relevant units

#### For Property Tax Revenue:

- Enter the Taxable Value Ratio (either/or Residential/Non-Residential)
- Mill Levy
- Market Value for each type of new development (either/or Residential/Non-Residential)

### For Sales Tax Revenue:

- Estimated Yearly Household Income of New Residents (Residential)
- Local Sales Tax Rate (Residential)
- Average or expected sales tax per use type (Non-Residential)

### **Important Notes**

- The ND2C is designed to provide a **conservative estimate and starting point** for discussing the fiscal impact of projects. The projected numbers are **estimates**. Based on community conditions, project details, and other variables (discussed in depth below) the cost may be higher or lower. This tool is designed to give communities an estimate of long-term costs and benefits to spark additional dialogue about the fiscal impact of a project.
- The ND2C intentionally excludes services like police, fire, general government, parks, public health, etc. The Calculator treats these as “fixed costs” associated with running a community—i.e. by adding a new development, a city won’t necessarily have to take on additional costs to provide these services. This is a conservative assumption. There are **many circumstances where a community might have new costs in these areas because of a new development**, but communities should factor that into their analysis, rather than rely on the ND2C to perform this calculation.
- Relatedly, the **ND2C will ignore any increases in services a project necessitates**. For instance, a greenfield development might require the community to build a new fire or police station to maintain standard service times. Another larger development might require the community to hire additional staff at city hall. The ND2C does not include these project-specific, community-specific details. It is critical that communities appropriately assess these considerations when weighing projects.
- The ND2C estimates how much a **community or county will collect in property tax revenues** from a development, NOT how much the development or individuals will pay in property taxes overall. The amount a community or county collects is determined by the mill levy entered by the user. A property-owner should anticipate pay much higher total taxes because additional mills will be levied that go towards other (schools, state government, county/community, etc.)
- For simplicity’s sake, the model assumes that **development revenue**—any direct revenue that a new development brings in, excluding taxes (e.g. permitting fees)—**is**

**generated in the first year of a project.** For instance, if a project brings in \$10,000 in permitting fees, that will take place entirely within Year 1.

**Development costs**—any direct costs associated with development, excluding staff time (e.g. any one-time infrastructure upgrades) to the city—**are spread out over however many years the project will take to complete.** For instance, a project that has \$12,000 in development costs and takes 2 years to complete will cost \$6,000 in Year 1 and \$6,000 in Year 2 (before applying NPV calculations). The model rounds up project durations to the nearest integer (i.e. a project taking 1.3 years to complete will take 2).

- The ND2C is **agnostic towards how communities and counties pay for development.** It merely displays how much a project will cost and what revenue it will generate. A community may elect to cover the costs of a project using special assessments, for instance, but that does not change the raw, absolute cost of a project and that someone (whether it's the community or its citizens) must bear that cost.

### FAQs

- **Q: *Who can use the ND2C?***

A: Anyone can use the ND2C. The underlying data and calculations behind the Excel spreadsheet are not able to be modified in any way, though.

- **Q: *What types of projects are the best?***

A: The point of this tool is not to make a judgment call on projects. There is no "best" project and perfectly good projects can have net-negative fiscal costs. There might be positive benefits that this tool doesn't account for and a city might decide for any number of sensible reasons that a costly project is still worth pursuing. Furthermore, **the ND2C is an estimate, not a precise calculation**, and the numbers might be off (particularly for a negative project that's relatively close to net-neutral).

**The implication of the ND2C is not that communities should never pursue a project that has a negative NPV.** It is to demonstrate and provide an initial estimate of the long-term costs and benefits associated with new development. These costs and benefits can be difficult to conceptualize, and the ND2C provides a conservative starting point for future discussion and analysis about the fiscal impact of development.

Because infrastructure tends to be the most expensive part of a new development, projects that rely more heavily on existing infrastructure (i.e. infill) will perform better in the fiscal analysis than those that involve new infrastructure.

- **Q: What if I don't know all the details/numbers that the calculator is asking me to input?**

A: That's ok! The ND2C is interactive and you can change the numbers at any time. With the Advanced Version, the baseline values for the ND2C are listed to the right to guide you. And remember, you only have to use the values that are relevant to your project (i.e. no need to put in single family home values for a mixed-use commercial development). Once you know more details, you can always change them later.

- **Q: Where does the data come from?**

A: The ND2C's data on street maintenance comes from city budget data from over 700 communities across Minnesota and North Dakota. The infrastructure and capital depreciation figures come from engineers with Minot, Bismarck, and Watford City. Household income and household size data comes from the US Census. For more information on the numbers informing the model, check out the Assumptions and Figures sheet.

- **Q: Does the ND2C account for any of the secondary costs or benefits associated with projects?**

A: Currently, the model does not account for many of these secondary costs—interest rates on bonding, administration or engineering costs with an infrastructure project, right of way, or easements. For a list of what costs are included, please refer to the Assumptions and Figures sheet.

- **Q: How do you determine how much a community receives in property taxes for a residential/non-residential property?**

A: We use the following formulas:

$$\text{Residential:} \quad \text{Assessed Value} \times 0.5 \times \text{Taxable Value Ratio} \times \frac{\text{Mill Levy}}{1000}$$

$$\text{Non-Residential:} \quad \frac{\text{Assessed Value}}{1,000 \text{ Sq. Feet of Gross Floor Area}} \times 0.5 \times \text{Taxable Value Ratio} \times \frac{\text{Mill Levy}}{1000}$$

You can find more information on what assessed values the ND2C uses in the Assumptions and Figures page.

- **Q: Will the ND2C work for other states?**

A: The ND2C was **designed specifically for North Dakota communities**, but may in specific circumstances be applicable for communities in other states, too. Using the Advanced Version, other states could input their own values to make the tool more accurate. However, the revenue formulas are calculated from the perspective of North

Dakota communities (i.e. using the formula above), which may complicate that aspect of using the tool appropriately.