

First Nations National Language Strategy

Cost Estimate for Implementation

Draft 4 July 2007

This cost estimate has been designed to accompany the National Language Strategy, focusing on language strategy elements which are common across all regions, language families and communities. This document provides little descriptive detail on various elements, for example, one cost category is simply community resource development and activities, and leaves the interpretation of what would constitute language resources and activities to individual communities and the regional consensus embodied in the National Language Strategy.

The estimate is broadly divided between development of language plans and implementation activities, the latter encompassing technological applications of language learning and survival, an E-clearinghouse, child and youth education (language nests through grade 12), post secondary education, community adult education, community language-related activities, and language family/regional and national activities and support.

In the estimate, 100 percent of communities have been costed for language plan development. A phased in approach has been utilized for other cost elements. This incremental approach acknowledges that language survival varies among communities, and has an impact on the number of fluent speakers to participate in education and cultural events. Two references have provided data which have allowed language distribution and language survival to be applied to this cost estimate:

- First Nations Languages in Canada, Summer Institute of Linguistics, 1006, as reported in AFN, 2000. *A Time to Listen and The Time to Act. National First Nations Language Strategy*; and
- 1990 and 1993 surveys of language use by five categories reported in *A Time to Listen and The Time to Act*. These categories are flourishing (>80% pop fluency), enduring (>60% pop fluency), declining (at least 50% pop fluency in adults, fewer younger people are speakers), endangered (>50% adult speakers, few or no speakers who are younger) and critical languages (0-10 speakers total). Since these surveys, some communities anecdotally report that fluency has continued to decrease.

A long term approach to the successful reversal of language decline has directed the construction of assumptions in this cost estimate. Table 1 provides an overview of community cost elements indicating which have been phased in over either a ten or twenty year time period in the estimate.

Table 1: Community Language Cost Elements

	Cost Approach	Immediate Funding	Phased In Funding
Technological Applications	Communities will average 2 years funding each to develop technological applications	25% of all communities	10 years for full implementation to all communities
Language Nests	Requires a fluent speaker in each nest. Funded for two staff	All communities	n/a
HSOR and Day Care	One fluent certified worker to be staffed per site	50% of flourishing and enduring communities	Remaining 50% of flourishing and enduring communities to be phased in over three years. (Note: Emphasis on language nests for critical, endangered and declining languages)
K-12	Twenty year plan whereby 70% of all band operated schools will be full immersion, and 30% will be partial immersion	Full funding to all existing full and partial immersion schools. Add one additional full and partial immersion school per language family	Remaining schools to reach 70% full and 30% partial immersion - to be phased in over twenty years.
Community adult language training	10 year implementation of <u>high intensity</u> immersion to 25% of flourishing and enduring communities (47 sites) 10 year implementation of <u>low intensity</u> adult education to all flourishing, enduring and declining communities (366 communities)	First year: five high intensity and 36 low intensity programs are funded.	Even, sequential addition of funds to include 47 high intensity programs and 366 low intensity community programs by ten years.
Teacher Language Training, Summer	\$3,000 bursary to persons working in the education sector to attend summer language school	Targeted to teachers in partial immersion schools, at 2 teachers per school annually	Number of teachers parallels the growth of partial immersion schools

Phase 1: Development Costs

Development costs cover language plan development at community and language family levels, and regional/language family and national support during this time period.

Community Language Plan Development

The estimate of community language plan development includes the following parameters:

- This activity will be funded as a one-time block amount per community based on community size categories.
- The funding amounts per size category have been developed from Health Canada's needs based planning amount provided for communities undergoing Health Transfer. In the Health Canada approach, funds are provided for planning, preparation, implementation (of the needs assessment) and analysis. For the community language plans, the preparation, implementation and analysis funds have been reduced by 50 percent, as language plan development is envisioned to be less intensive than a health needs assessment which must include the many and various stakeholders in a community health system.

Table 2: Community Language Plan Cost Elements

Population	Planning	Preparation	Implement	Analysis	Total
0 - 500	\$4,000	\$3,500	\$5,000	\$8,500	\$21,000
501 – 1,000	\$5,000	\$4,750	\$7,500	\$9,000	\$26,250
1,001- 2,000	\$5,000	\$7,000	\$15,500	\$11,500	\$39,000
>2,000	\$5,000	\$9,500	\$24,500	\$11,500	\$50,000

- As Table 2 shows, these expenditures are ramped up by community size. In the language plan, the number of communities in the 0-500 category has been adjusted to recognize that very small communities will need to partner with other communities so that the smallest funded size is 250 population.¹ This has resulted in a reduction of the number of communities in the 0-500 grouping from 349 to 247.
- Table 3 shows the estimated costs by community size. An overall adjustment has been made for remoteness. Double funding has been applied to the percentage of communities which are considered remote and isolated (16.7 percent).² Total costs are \$17.1 million.

Table 3: Community Language Plan Costs

Population Category	# of Communities or Groupings	Funds/ Community or Group	Total
0 - 500	247	\$21,000	\$5,187,000
501 – 1,000	141	\$26,250	\$3,701,250
1,000 – 2,000	90	\$39,000	\$3,510,000
> 2,000	44	\$50,000	\$2,200,000
Subtotal	522		\$14,598,250
Remoteness	16.7% of		\$2,481,170

¹ This was achieved by adding up the population of all communities less than 250 in a region, and dividing by 250 to arrive at a number of communities for funding purposes.

² Health Canada. Community Workload Increase System

adjustment (2X)	communities		
Total			\$17,079,952

Language Family Plan Development

The approach to costing the language family plan development assumes that all language families will receive \$50,000 in block funding, with additional resources provided on a per capita basis to a maximum of \$150,000.

- The 1990-93 community survey results reported in *A Time to Listen and The Time to Act* has provided the distribution of populations among language families. This percentage distribution has been used to distribute a more recent 2006 Indian Register population among these language families.
- This cost estimate does not include population surveys, as this information will be provided from the community language plans. Expected activities are related to the coordination of community plan development and associated activities, roll up, analysis, and development of a language family-level plan.
- As Table 4 shows, a minimum of \$50,000 is estimated per language family, and the balance to a maximum of \$150,000 to be based on an equal per capita allocation. Additional resources is calculated using this formula:
 $\$100,000 / (225,541 - 1,612) = \$.45 / \text{per capita}$.
- Language family planning costs are estimated at \$810,577. As statistics are not available for the Cree-French language family, an additional \$55,000 has been included for this language family to bring the total cost to \$865,577

Table 4: First Nations Language Families

Language Family	# of Languages	Population in AFN report*	Percentage	Population – convert to 2006 IR pop (428,446)	Planning Funds
Algonquain	16	209,890	52.6%	225,541	\$151,493
Athapaskin	17	25,310	6.3%	27,197	\$62,239
Haida	1	2,000	0.5%	2,149	\$50,967
Iroquoian	8	29,075	7.3%	31,243	\$64,059
Isolate	1	1,500	0.4%	1,612	\$50,725
Salishan	11	29,440	7.4%	31,635	\$64,236
Siouan	4	78,500	10.7%	84,354	\$87,959
Tlinglit	1	9,000	2.3%	9,671	\$54,352
Tsimshian	2	5,000	1.3%	5,373	\$52,418
Wakashan	4	9,000	2.3%	9,671	\$53,352
	65	398,715	100%	428,446	\$692,801
Remoteness adjust (2X)	Use 16.7% above				\$117,776
TOTAL					\$810,577

* *A Time to Listen, The Time to Act*.

Note: some language family populations include an unknown proportion living in the US. Also, the Cree-French, Creole language family is not included due to lack of data in *A Time to Listen, The Time to Act*.

Regional/Language Family/National Support

Regional/Language Families

The 1990-93 First Nations language survey indicated 11 First Nations language families. Using this grouping, immersion education authorities (one per language family) have been funded for \$200,000 in the first year and thereafter for operations.

National Activities

To be completed

Phase 2: Implementation

Technological Applications

Electronic Applications

It is estimated that all language families will access funds to develop electronic applications of language revitalization and survival strategies. Initially, 25% of individual communities will access these funds, with full funding of all communities to occur over a ten year period.

- An average cost has been assumed: \$50,000 per language family and \$20,000 per community/community grouping
- Language family costs: $11 \times \$50,000 = \$550,000$
- Community cost: 25% of 522 communities/groupings = 131.
 $131 \times \$20,000 = \$2,620,000$
- Total: **\$3,120,000**

Ongoing:

- Assume communities will average two years of funding each and full implementation of technology applications will take ten years.
- $531 - 131 = 391$ additional communities will receive funding over ten years, or an average of 40 per year.
- Language family funding will remain at \$50,000 per year for ten years.

E-Clearinghouse

Developmental costs of an E-clearinghouse are estimated at \$100,000 for the first two years, with ongoing operating costs at \$75,000 annually.

School Resources – Preschool to K-12

Pre School

Preschool language learning is assumed to utilize both established programs for preschool children and the creation of language nests.

HSOR and Day Care

It is assumed that initially HSOR and day care programs will add one fluent staff person at each site. Thereafter, staff will be gradually trained or replaced with other fluent speakers as a part of normal operations. Not all HSOR and day care programs will have access to fluent speakers initially. It is estimated that 50% of flourishing and enduring communities will be able to hire a fluent speaker immediately, and other accredited fluent staff to be hired, or existing staff attain fluency over a three year period. This estimate of 50% is in part because staff in HSOR and day care programs requires certification independent of language fluency.

It is also assumed that communities with critical, endangered and declining languages will not be able to immediately staff fluent speakers.

Present sites for Head Start on Reserve (HSOR) and Day care include:

- 389 day care sites: data obtained from the 2002/03 First Nations and Inuit Child Care Initiative Annual Report. The number of Inuit sites was not provided; here it is estimated to reflect the four percent of Inuit in Health Canada's First Nations and Inuit population data. Removing this estimation of Inuit from the day care data provides 373 First Nations day care sites.
- 332 HSOR sites (or 200 projects) in 2004/05: data obtained from the Aboriginal Head Start on Reserve 2004-2005 Progress Report.
- 89 INAC funded child/day care programs in 2003/04: 17 programs in Alberta, 57 programs in Ontario and 15 programs in New Brunswick
- Total site = $373 + 332 + 89 = 794$.
- Flourishing and enduring language communities = 30% of all communities. Assuming an equal distribution of programs over all communities, therefore 30% of 794 or 238 sites are in flourishing and enduring communities.

Funding:

- The average Aboriginal Head Start salary reported in a 2001 survey was \$15.40/hour for 31 hours/week over 45 weeks. Assuming inflationary costs since 2001 of 2% annually and 20% benefits on the resulting wage, the hourly rate is \$17.69 and total annual salary is \$29,613. With 30% operational costs included, the salary cost becomes \$38,497. Additional remoteness costs have been calculated in a similar fashion to the community language plan costs for a total estimated cost of \$44,926. (Note: communities will not receive exactly \$44,926, as this is a representation of average costs which include remoteness for some communities.)
- 50% of 238 sites are assumed to immediately hire a fluent speaker.
- First year cost: $.5 \times 238 \times 44,926 = \mathbf{\$5,346,194}$.
- The remaining 50% will be phased in over three years at 40 sites per year.

For critical, endangered and declining languages, the preschool emphasis in the first 20 years will be on language nests to build up a minimum number of fluent speakers in the community.

Language Nests

It is assumed that all communities with critical, endangered and declining languages will establish language nests (note: this may be an overestimation as not all communities may have Elders or other community members who are fluent and willing to assume the responsibilities of a language nest). Critical, endangered and declining language communities are 70% of First Nations communities as per two surveys conducted by AFN in 1990 -1993.

The cost estimate incorporates one language nest per community in 50% of flourishing and enduring communities. Note: this assumes that half of these communities will have a majority of households where First Nations languages are spoken, and therefore will not require a language nest.

- 70 percent of 630 - critical, endangered and declining communities = 441 communities.
- 30 percent of 630 – flourishing and enduring communities = 189. Assume 50% will start a language nest = 95 communities.
- Total: 536 communities funded for a language nest

Funding:

- Support two staff per language nest at the above salary and operating expense level (\$44,926, see above)
- Fund one nest per community.: Note: funding only one language nest in larger communities which may have a large number of children aged 0-3 is by itself inadequate; however the larger communities are more likely to have day care and HSOR centres where exposure to First Nations languages will be provided (see above).
- \$44,926 X2 X 536 communities = **\$48,160,672**

Kindergarten, Elementary and Secondary School Language Instruction

The statistics used in this portion of the cost estimate are:

- INAC 2003/04: K-12 student numbers: 496 FN operated schools, with an enrolment of 70,600. Note this averages out at 142.3 students per school.
- INAC 2003/04: K-12 student numbers in provincially operated schools: 36,043.
- Existing K-12 funding: average of \$6,500 for instructional resources as identified in the INAC document: *Evaluation of Band-Operated and Federal Schools*.
- AFN's *The Study of the Educational Cost Drivers to First Nations Education Report*, 2006 ("Education Cost Driver Report"): This report included a school survey which found that 9 schools out of 82 respondents provided full immersion (11.0 percent); and that 12 schools offered partial immersion (language-as-a-subject instruction) (14.6 percent).

- Imputed statistics: total number of full immersion schools: 11 percent of 496 or 54 schools; and total number of partial immersion schools: 14.6 percent of 496 or 72 schools.

Cost estimate:

- The cost estimate includes the addition of one new immersion school per language family immediately = 11 or 65 total. This brings the percentage of all schools who have full immersion to be 13.1 percent. In addition, a twenty year plan is included which would systematically add immersion schools to a target of 70%. This twenty year plan assumes the remaining 30 percent of schools will not convert to full immersion in twenty years, rather they will provide a subject level instruction either because of a lack of desire to go to full immersion, or a lack of fluent staff.
- Immediate Full Immersion: Using the average of 142.3 students per school in 2003/04 and 65 schools, **9,250** students have been costed for full immersion. As INAC now funds an average of \$6,500 per student, and the *AFN Education Cost Driver Report* recommends a level of \$11,304 per full immersion student, this difference is \$4,804 per student or **\$44,437,000**.

Over twenty years, an average of 14 more schools will be funded for full immersion each year. (496 schools X 70 percent - 65 = 282 or 14 per year)

- Immediate Partial Immersion: As not all communities will have access to teachers immediately, the same approach is used as above, where an average of one additional school per language family will immediately convert to partial immersion (to a total of 82 schools or 16.5% - 11,669 students), then implement a twenty year plan to supplement the full immersion above whereby 70 percent is full immersion, and 30 percent is subject level immersion. Using the average of 142.3 students per school in 2003/04 and 82 schools, **11,669** students to be funded for partial immersion. The *AFN Education Cost Driver Report* has recommended \$1,000 per student as the increased costs of subject level immersion. 11,669 students @ \$1,000 = **\$11,669,000**.

Over twenty years, an average of 4 more schools will be funded for full immersion each year. (496 schools X 30 percent - 65 = 67 or 4 per year)

- The *AFN Education Cost Driver Report* has recommended an average of \$688 per student per year as the additional cost of curriculum development. For the 9,250 and 11,669 students above (20,919), this results in a cost of **\$14,392,272**.

Over twenty years, an average of 18 schools at 142.3 students/school will be funded for full immersion each year. (14 + 4 schools from above)

From the above, the total K-12 language costs for band operated schools (over existing INAC funding) = **\$70,498,272** immediately.

Funding of provincially operated schools to provide subject-level instruction to First Nations students is assumed to be implemented over twenty years: \$1,000/student for partial immersion costs, and \$688/student for curriculum development: $36,043/20 \times \$1,688 = \mathbf{\$3,041,776}$ in the first year. (Note: this cost may be an overestimation as not all provincial schools may have a critical mass of First Nations students to offer a language class.)

Community Based Adult Education and Community Resources

Adult Language Training

Adult language training costs have been premised on two assumptions:

- A subset of flourishing and enduring language communities (25 percent or 48) would have the capacity to provide high intensity language training, such as a nine month program with full time class instruction and master apprenticeship). These programs would be implemented over a ten year period at 5/year, each with a per course training cost of \$125,000. (\$625,000 in first year).
- All flourishing, enduring and declining communities (58 percent or 366) will provide low intensity training, which will be implemented over a ten year period: 3X a week for 2 hours over a 9 month period, plus 5 hrs/wk for non-class work (\$30/hour – this includes teacher wages and other resources required = 396 hours or \$11,880; and facility rental of \$100/wk = total of \$15,480. Add 2X resources for remote communities (16.7 percent) for a total of \$18,065. (\$668,405 in first year).

Note: (1) developmental costs, including curriculum and instructional tools have been included under Community Resources (below). (2) cost of certifying community members to be educators would be a function of the language immersion authorities. (3) expansion of adult education to endangered and declining language communities is not included, as these communities will focus on children and youth to build up a level of fluent speakers that can be a resource for adult language instruction.

Language Assistants

- Language assistants are funded under Canada's bilingual strategy at \$18,500 per assistant. The cost estimate assumes ten language assistants per language family on average, to be fully implemented over a 10 year period ($110/10 \times \$18,500 = \$203,500$ in first year).

Community Resources and Activities/Events

- Community-led activities such as development of resources for language training and related activities/events are averaged at \$20,000 per community/year for those 250-500 population, \$30,000 for 500-1000, \$35,000 for 1,000- 2,000 and \$40,000 for over 2,000 population, as detailed in Table 5.

Table 5: Community Activities

Population Category	# of Communities or Groupings	Funds/ Community or Group	Total
0 - 500	247	\$20,000	\$4,940,000
501 – 1,000	141	\$30,000	\$4,230,000
1,000 – 2,000	90	\$35,000	\$3,150,000
> 2,000	44	\$40,000	\$1,760,000
Subtotal	522		\$14,080,000
Remoteness adjustment (2X)	16.7% of communities		\$4,702,720
Total			\$18,782,720

Post Secondary Language Education

Post Secondary Language Education Curriculum Development

- A review of post secondary language education courses in Canada using a web-based linkage-search technique identified 13 Canadian universities which offer First Nations language training. This cost estimate has assumed that there are 15 universities interested in further developing First Nations language curriculum.
- 15 universities X \$100,000 each to assist in the development of additional courses = **\$1,500,000** annually for five years.

Teacher Language Training, Summer

This training is specifically for those persons who are working in the education sector (pre-school to 12), who are semi-fluent and wish to upgrade their skills in the summer break. Teachers would receive a \$3,000 bursary for out-of-community language training (room, board, tuition) of 2 months duration. Initially, assume that those schools with a subject level instruction would have an average of two teachers each who interested in further pursuing language fluency each summer. The above section on K-12 costs assumes that 82 schools will be funded for partial immersion.

- 82 schools X 2 teachers X \$3,000 = \$492,000.
This amount would increase commensurate with the increase in numbers of partial immersion schools, at 4 schools per year (see above).

Teacher Language Training, Full Time

Full time post secondary education for First Nations students is covered under INAC for an average of \$10,506 per student per year (2002/03). SHOULD AN INCREASED ENROLMENT BE CONSIDERED FOR HERE?

Regional/Language Family/National Support

Regional/Language Family

Immersion education authorities (one per language family) will require operational funding, plus dedicated resources for language development.

- Operational funding: \$200,000 annually, as described above
- Language development resources (word development, validation, protocols, etc.)
Each language is assumed to require 2 years' intensive funding, at \$100,000 each year. The 65 languages are phased in at 20 languages per year, with the first year cost estimated at \$2,000,000.
- Tribal Councils will provide a locus for language consultant services.
85 tribal councils X \$95,000 = \$8,075,000.

National

To be completed.

First Nations National Language Strategy
Cost Estimate

	X 1,000										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Phase 1: Development											
Language Plans											
Community	\$17,080.0										
Language Families	\$865.6										
Lang Fam/National Support											
Language Family Operations	\$2,200.0										
National Operations	??										
	\$20,145.6										
Phase 2: Implementation											
Technological Applications											
Community		\$3,120.0	\$3,920.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$80.0
Language Families		\$550.0	\$550.0	\$550.0	\$550.0	\$550.0	\$550.0	\$550.0	\$550.0	\$550.0	\$550.0
Clearinghouse		\$100.0	\$100.0	\$75.0	\$75.0	\$75.0	\$75.0	\$75.0	\$75.0	\$75.0	\$75.0
Lang Fam/National Support											
Lang Family Operations		\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0
Lang Dev Resources		\$2,000.0	\$4,000.0	\$4,000.0	\$2,500.0	\$500.0					
Language Consultants (tribal councils)		\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0
National Operations		??									
PreSchool											
HSOR and Day Care		\$5,246.2	\$7,043.2	\$8,840.3	\$10,637.3	\$10,637.3	\$10,637.3	\$10,637.3	\$10,637.3	\$10,637.3	\$10,637.3
Language Nests		\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7	\$48,160.7
K-12 Schooling											
Full Immersion		\$44,437.0	\$54,007.5	\$63,578.1	\$73,148.6	\$82,719.1	\$92,289.6	\$101,860.2	\$111,430.7	\$121,001.2	\$130,571.8
Partial Immersion		\$11,669.0	\$12,238.2	\$12,807.4	\$13,376.6	\$13,945.8	\$14,515.0	\$15,084.2	\$15,653.4	\$16,222.6	\$16,791.8
Curriculum Dev		\$14,392.3	\$16,154.5	\$17,916.8	\$19,679.0	\$21,441.3	\$23,203.5	\$24,965.8	\$26,728.0	\$28,490.2	\$30,252.5
Prov - FN Lang Instruction		\$3,041.8	\$4,281.6	\$5,521.4	\$6,761.1	\$8,000.9	\$9,240.7	\$10,480.5	\$11,720.2	\$12,960.0	\$14,199.8
Community Implementation											
Adult lang instruction - high intensity		\$1,250.0	\$1,875.0	\$2,500.0	\$3,125.0	\$3,750.0	\$4,375.0	\$5,000.0	\$5,625.0	\$6,250.0	\$6,875.0
Adult lang instruction - low intensity		\$668.4	\$1,336.8	\$2,005.2	\$2,673.6	\$3,342.0	\$4,010.4	\$4,678.8	\$5,347.2	\$6,015.6	\$6,684.0
Lang Assistants		\$203.5	\$407.0	\$610.5	\$814.0	\$1,017.5	\$1,221.0	\$1,424.5	\$1,628.0	\$1,831.5	\$2,035.0
Res Dev & Activities		\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7	\$18,782.7
Post Sec Lang Education											
Curriculum Development		\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0					
Teacher Lang Train - Summer		\$492.0	\$516.0	\$540.0	\$564.0	\$588.0	\$612.0	\$636.0	\$660.0	\$684.0	\$708.0
Teacher Lang Train - Full Time		????									
Lang Fam/National Support											
Lang Family Operations		\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0	\$2,200.0
Lang Dev Resources		\$2,000.0	\$4,000.0	\$4,000.0	\$2,500.0	\$500.0					
Language Consultants (tribal councils)		\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0	\$8,075.0
National Operations		??									
TOTAL	\$20,145.6	\$165,888.6	\$185,148.3	\$197,823.0	\$212,782.7	\$225,445.3	\$238,108.0	\$252,770.6	\$267,433.3	\$282,095.9	\$296,678.6